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VOLUME XXVI

SOURCE BOOK
FOR
AFRICAN ANTHROPOLOGY

PART I

BY

WILFRID D. HAMBLY

CURATOR OF AFRICAN ETHNOLOGY

111 Text Figures, 5 Maps

PAUL S. MARTIN

CHIEF CURATOR, DEPARTMENT OF ANTHROPOLOGY

EDITOR

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CONTENTS

PART I

	PAGE
LIST OF ILLUSTRATIONS	7
FOREWORD	13
PREFACE	15

SECTION I: OUTLINES OF AFRICA

I. PHYSIOGRAPHY AND NATURE NOTES	19
Physical Features	19
Climate	30
Vegetation Zones	32
Animal Life	51
II. HISTORY	72
Kinds of Evidence	72
Datable Events	73
III. PREHISTORY	91
Fossil Man	91
Stone Implements	99
Archaeological Technique	99
Europe	101
North Africa	106
East Africa	118
South Africa	123
The Congo Region and West Africa	132
Rock Paintings and Engravings	137
Stone Monuments and Buildings	152
IV. PHYSICAL ANTHROPOLOGY	161
Technique	161
Negroes	163
Western Negroes (Table 1)	165
Central Negroes (Table 2)	172
South and Southwestern Negroes (Table 3)	175
Eastern Negroes (Table 4)	177
Nilotic Negroes (Table 5)	180
Semites, Hamites, Half-Hamites (Table 6)	186
Hamites (Northern)	194
Hamites (Eastern)	194
Half-Hamites	202
Pygmies (Table 7)	202
Khoisan People (Bushmen and Hottentots) (Tables 7, 8)	210
Comparison of Physical Types	220
Stature	220
Head Form	222
Nose	222

	PAGE
Human Origins and Migrations	226
Paleontology	226
Dispersal of Physical Types	227
The Concept of Race	229
Differentiation	231
Environment	232
Hybridization	233
Quantitative and Qualitative Differences	234
African Migrations and Mixtures	240
Pygmies and the Khoisan	240
Negroes	243
Hamites and Semites	248
V. CONGENITAL ANOMALIES, DEFORMATION, ORNAMENTS, AND CLOTHING	255
VI. PSYCHOLOGY	276
VII. LANGUAGES AND LITERATURE	288
Language and Culture	288
Classification of Languages	289
Bushman Languages	291
Sudanic Languages	293
Bantu Languages	296
Hamitic and Semitic Languages	299
Writing (Table 9)	302
Proverbs	309
Folklore	311
Songs and Poetry	316
Sign and Whistling Languages	318
Drama	319
Symbolic Messages and Drum Language	320
Field Records	322
SECTION II: THE CULTURE AREA CONCEPT	
I. TOPOGRAPHY AND CULTURE	325
II. HUNTING CULTURES	329
Bushmen	329
Pygmies	341
III. PASTORAL PURSUITS	349
IV. CAMEL KEEPERS OF THE SAHARA	361
The Tuareg	361
The Tibesti Plateau	372
The Libyan Oases	375
V. SEMITIC AND MOHAMMEDAN ELEMENTS	379
The Arabian Background	379
The Kababish	380
Mohammedanism	387
Arab-Berber Culture	393
VI. AGRICULTURE	398

PART II

SECTION III: BASIC ELEMENTS OF NEGRO CULTURE

	Introduction	407
I.	SEXUAL LIFE	409
	Courtship and Marriage	409
	Polygamy	417
	Divorce	419
	Other Sexual Relations	424
II.	EDUCATION OF CHILDREN	429
	Pregnancy and Infancy	429
	Home Influence, Games, Dancing, Music	442
	Initiation into the Tribe	456
III.	SOCIAL ORGANIZATION	469
	Kinship Terms (Tables 10, 11)	469
	The Family	475
	Clans and Totems	484
	The Village and the Kingdom	495
IV.	SOCIAL CONTROLS	498
	Secret Societies	498
	Age-Groups	502
	Law	506
V.	SOCIAL CONFLICTS	521
	Warfare and Head-hunting	521
	Slavery	533
VI.	RELIGION	541
	Difficulties of Study	541
	The Idea of God	542
	Sacred Kings	548
	Survival after Death, and Ancestor Worship	556
	Religion and Conduct	565
	Sacred Animals	567
	Medicine-men	570
VII.	ECONOMIC LIFE	586
	Agriculture	586
	Domestic Animals	594
	Hunting	596
	Fishing	602
	Nature Lore and Collecting	604
	Commerce	609
	Arts and Handicrafts	613
	Ritual and Occupation	642

SECTION IV: THE EUROPEAN PERIOD

I.	EXPLORATION	649
	Maritime Enterprise	649
	The Sahara and the Niger	654
	The Congo and Zambezi Rivers	661
	South and East Africa	666
	The Nile and Northeast Africa	668

	PAGE
II. EUROPEAN GOVERNMENTS	672
The Partitioning of Africa	672
Independent Territory	673
Britain	674
France	681
Belgium	684
Portugal	684
Italy	685
Spain	688
III. WELFARE OF AFRICANS	690
Health and Population	690
Labor Laws	696
Education and Administration	698
Anthropology and Government	710
IV. SUGGESTIONS FOR RESEARCH	720
History of Anthropology	720
The Present	722
The Future	725
BIBLIOGRAPHIES	
Periodicals	728
Authors	733
Political Areas	836
Sources by E. V. Prostov	840
GENERAL INDEX	867
BIBLIOGRAPHICAL INDEX	921

LIST OF ILLUSTRATIONS

TEXT FIGURES

PART I

	PAGE
1. Unloading natron, Baya Seyarum, Lake Chad	27
2. Types of landscape. <i>a.</i> Parkland scenery near Sokoto, Nigeria, river bed in drought. <i>b.</i> Dense forest bordering a river, Cameroons . .	33
3. Parkland scenery on high plateau, Abyssinia (from photograph by A. M. Bailey). Field Museum-Chicago Daily News Abyssinian Expedition	35
4. Sandy Pliocene desert southwest of Dahshur Pyramids, Egypt (courtesy of Oriental Institute, University of Chicago)	36
5. Gebel Rakhmaniyyah with Pliocene platform, Wadi Madamud, Egypt (courtesy of Oriental Institute, University of Chicago) .	37
6. Semi-desert with thorn bush, near Hawash, Abyssinia (from photograph by A. M. Bailey). Field Museum-Chicago Daily News Abyssinian Expedition	39
7. Baobab tree and semi-desert scenery (from painting by Field Museum Staff Artist, Charles A. Corwin)	40
8. <i>a.</i> North African oasis with date palms, <i>Phoenix dactylifera</i> (from painting by Field Museum Staff Artist, Charles A. Corwin). <i>b.</i> Oil palm, <i>Elaeis guineensis</i>	43
9. <i>a.</i> Borassus palm, <i>Borassus flabellifer</i> . <i>b.</i> Dum palm, <i>Hyphaene thebaica</i>	45
10. <i>a.</i> Raffia palm, Elende, Angola. <i>b.</i> Climbing a palm, Cameroons . .	47
11. <i>a.</i> <i>Euphorbia menelikii</i> , Abyssinian plateau, desert type of vegetation, 15 meters high (after F. Rosen, from G. Karsten and H. Schenck). <i>b.</i> Termite hill, Cameroons	49
12. African water-hole, southern Abyssinia. Black rhinoceros, Grant's zebra, common eland on extreme left, Grant's gazelle (from group in Field Museum)	53
13. Domestic animals. <i>a.</i> Fat-tailed sheep. <i>b.</i> Long-eared Syrian goat. <i>c.</i> Fat-rumped sheep. <i>d.</i> Keltic breed of long-snouted pig	57
14. Hyrax, Abyssinia. Scale about 1:20 (from group in Field Museum) . .	60
15. African cheetahs. Scale about 1:36 (from group in Field Museum) .	61
16. African hyenas. <i>a.</i> Spotted. <i>b.</i> Striped. Scale about 1:24 (from groups in Field Museum)	63
17. Mongoose, southwest Africa. Scale about 1:3 (from specimen in Field Museum)	65
18. <i>a.</i> Aardvark. Scale about 1:15. <i>b.</i> Pangolin. Scale about 1:8 (from specimens in Field Museum)	66
19. Catfish, <i>Clarias senegalensis</i> . Scale about 1:3	67
20. African weaver-birds and nest. Scale about 1:6 (from specimens in Field Museum)	69
*21. African paleoliths. Scale about 7:12. <i>a.</i> Paleolith of brownish tinge, plano-convex, worked on convex side. Ormiston, East Griqualand. <i>b.</i> Paleolith of gray stone, trimmed with coarse flakes both sides, ridges well worn, Vaal River Gravel, Barkly West, on bed rock under 24 inches of gravel. <i>c.</i> Paleolith, Mousterian type, Somaliland. Presented by H. W. Seton-Karr. <i>d.</i> Paleolith, Mousterian type, of white quartzite, Somaliland. Presented by H. W. Seton-Karr. <i>e.</i> Paleolith, Mousterian type, brown quartzite, Somaliland. Presented by H. W. Seton-Karr. <i>f.</i> Paleolith, chisel shaped, grayish color, Taungs, South Africa	105

- *22. African stone implements. Scale about 2:3. *a.* Stone celt of reddish color, Neolithic, Ashanti. *b.* Gray stone implement, Mousterian type, Glen Grey Hills, Queenstown, Cape Province, South Africa. *c.* Brown stone implement, Mousterian type, provenance same as (*b.*). *d.* Gray stone implement, Smithfield culture, Mousterian type, flat one side, De Keil Oost, Orange Free State, South Africa. *e-j.* Crescentic implements and core (*g.*) of the Wilton type. Western Free State, South Africa 107
- *23. African implements of stone and bone. Scale about 2:3. *a, h-k.* Collected by Miss Caton-Thompson and presented to Field Museum by British School of Archaeology in Egypt. *a.* Flint implement with serrated edge, Qasr Sagha, Faiyum Desert, Egypt. *b, c.* Flint point, Cap Blanc, French Mauretania. *d-g.* Bone awls, Wilton culture, Robbery Cave, South Africa. *h.* Long flint flake retouched at point, Faiyum Desert, Egypt. *i.* Neolithic javelin point of flint, Old Lake Basin, Faiyum Oasis, Egypt. *j-k.* Neolithic arrowheads of flint, Faiyum Desert, Egypt. *l-n.* Flint arrow heads, Neolithic, Cap Blanc, French Mauretania . . . 113
24. Rock paintings and engravings. *a.* Paintings from Ennedi, Sahara, after Passemard and Saint-Floris. Size not given, color red. *b.* Rock engravings, Sahara, after Barth. Size about 3 by 4 feet. *c.* Engraving of white rhinoceros, South Africa, after Gilman. Technique furrowing and pointing, lightly pecked. Scale 1:8. *d.* Painting, South Africa, after Stow and Bleek. Rhinoceros hunt, hunters wearing hartebeests' heads. Painting on rocks at Kareefontein on Caledon River, Ladybrand District. Color black, size 18 by 35 inches 139
25. Negro types, Ogbomosho, Nigeria. *a.* Bini man. *b.* Jekri youth . 166
26. Negro types, Ovimbundu, Angola. *a.* Modified Negro type. *b.* Typical Negro features 167
27. Bari man, near Juba. Anglo-Egyptian Sudan (courtesy of Marvin Breckinridge, copyright) 182
28. Bari man, near Juba. Anglo-Egyptian Sudan (courtesy of Marvin Breckinridge, copyright) 183
29. Bedouin Arab of Tunis, North Africa 185
30. Bedouin Arab of Tunis, North Africa 187
31. Well-educated, Arabic-speaking type, Tunisia, Berber features . . 189
32. Bedouin Arab woman, Tunisia, North Africa 191
33. Bedouin Arab woman, Tunisia, North Africa 192
34. Pure Saharan Berber (Tuareg) type (after M. G. Grandidier) . . . 193
35. Egyptians of Luxor. *a.* Hamitic type. *b.* Showing Negroid and Hamitic mixtures (after photographs by H. Field) 195
36. Amharic-speaking Abyssinians, Addis Ababa (after photographs by A. M. Bailey). Left, hair-dressing indicates that he has killed a lion. Right, Amharic-speaking Abyssinian, Addis Ababa. Field Museum—Chicago Daily News Abyssinian Expedition. 196
37. Eastern Hamitic types. *a.* Hadendoa, sword on back (courtesy of Sudan Government Railways). *b.* Somali (courtesy of Th. T. Mollison, Anthropologisches Institut der Universität München) . 197
38. Abyssinian (Amharic-speaking, left), Black Falasha (right), and Abyssinian ibex (from photograph by A. M. Bailey). Field Museum—Chicago Daily News Abyssinian Expedition 200
39. Masai warriors, Kenya, Half-Hamites 203
40. Pygmy chief, northeast Aruwimi River. Stature 4 feet 2 inches. Wears strip of okapi skin round waist (from photograph by Mrs. Delia Akeley, copyright) 205

LIST OF ILLUSTRATIONS

9

	PAGE
41. Bambuti Pygmies, Ituri Forest. <i>a.</i> Male. <i>b.</i> Mother and child (from photograph by E. Heller)	207
42. Bambuti Pygmies, Ituri Forest. <i>a.</i> Female. <i>b.</i> Male (from photograph by E. Heller)	209
43. Bushman, Cassinga, Angola	211
44. Bushmen, Gomodino Pan, Kalahari Desert (courtesy of Arthur S. Vernay, copyright)	218
45. Bushmen, Gomodino Pan, Kalahari Desert (courtesy of Arthur S. Vernay, copyright)	219
46. Bushmen, Gomodino Pan, Kalahari Desert (courtesy of Arthur S. Vernay, copyright)	221
47. Bushwomen, near Gemsbok Pan, Kalahari Desert, wearing forehead band of ostrich-eggshell beads (courtesy of Arthur S. Vernay, copyright)	223
48. Hottentot man, front and side views (after G. Fritsch)	225
49. Albinos. <i>a.</i> Albino woman, Vachokwe, Cangamba, Angola. <i>b.</i> Partial albino, Akikuyu tribe, Kenya	257
50. Scarification. <i>a.</i> Munshi woman, Katsina Ala. <i>b.</i> Angas man, near Pankshin, Nigeria	259
51. Dental mutilation. <i>a.</i> Esele man, Angola. <i>b.</i> Sara man, Lake Chad	261
52. Personal ornament. <i>a.</i> M'Bunda woman, teeth mutilated, Cangamba, Angola. <i>b.</i> Esele woman wearing nose-pin, Angola	263
53. Negrillo and dwarf. <i>a.</i> Batwa, cross between Negro and Pygmy, Kasai, Congo, a somatic type. <i>b.</i> Dwarf, Kano, Nigeria, congenital malformation	264
54. Personal ornament. <i>a.</i> Distension of ear lobes, Kikuyu boy, Kenya. <i>b.</i> Cranial deformation and tooth mutilation, woman, Ruwenzori (from photograph by E. Heller)	265
55. Berg Damara woman, with Herero headdress, South West Africa (from photograph by Arthur S. Vernay, copyright)	267
56. Unclothed types. <i>a.</i> Luvando girls, southwest Angola. <i>b.</i> Angas women wearing leaves, near Pankshin, Nigeria	268
57. Personal ornament. <i>a.</i> Bolewa girl, Potiskum, Nigeria. <i>b.</i> Shuwa Arab girl, Maiduguri, Nigeria	269
58. Fulani clothing and ornament, near Shendam, Nigeria	271
59. Hausa types, male and female, of Kano, Nigeria	272
60. West African clothing. <i>a.</i> Yoruba children, Ibadan, Nigeria. <i>b.</i> Fulani chiefs, near Shendam, Nigeria	273
61. Mohammedan education. <i>a.</i> Mallam of Bida, Nigeria, writing Koranic texts. <i>b.</i> School in Kano market, Nigeria	307
62. Bushman kneeling to shoot, Koatwe Pan, Kalahari Desert (from photograph by Arthur S. Vernay, copyright)	331
63. Bushwomen, Gomodino Pan, Kalahari Desert, filling ostrich eggshells with water (from photograph by Arthur S. Vernay, copyright)	335
64. Bambuti Pygmies, southern border Ituri Forest (from photograph by E. Heller)	343
65. Huts of Bambuti Pygmies, Ituri Forest. Built near place where elephant was killed by Pygmies (courtesy of Mrs. Delia Akeley, copyright, 1930)	344
66. Cattle-keeping Vakwanyama, Angola. <i>a.</i> Woman with hide skirt and leather belt. <i>b.</i> Man wearing <i>omba</i> shells and hide loin-covering	353
67. <i>a.</i> Cattle of the Ovimbundu, Elende, Angola. <i>b.</i> House of cattle-keeping Vakwanyama, Angola	355
68. <i>a.</i> Transport by cattle, Maradi, French Niger Territory. <i>b.</i> Portuguese riding an ox, Elende, Angola	357

	PAGE
69. Tuareg caravan, near Zinder, French Niger Territory	363
70. Tuareg of Timbuktu (from photograph by John F. Jennings). Straus West African Expedition	365
71. Ba'ij Bedouin, near Kish, Iraq (from photograph by H. Field)	378
72. Bedouin tent, typical of Arabia and north Africa (from photograph by H. Field)	380
73. North and west African architecture, Kano, Nigeria	381
74. a. House in Kano, Nigeria, north African Mohammedan style. b. Musicians at Ilorin. On left player of <i>algaita</i> a north African instrument	389
75. African horsemen. a. Dejazmatch Ayalu, ruler in Simien Mountains, Abyssinia. b. Horseman with mail shirt, Potiskum, Nigeria (from photograph by A. M. Bailey). Field Museum—Chicago Daily News Abyssinian Expedition	391
76. Houses of agricultural Negroes. a. Village scene, Cameroons. b. House with painted walls, near Bailundu, Angola	399
*77. Musical instruments from Angola. a. Dumb-bell basket rattle, Vachokwe, Cangamba. b. Wooden flute, Ovimbundu, Elende. c. Gourd instrument played by rubbing grooves with a stick. d. Ankle rattles made from seed pods, Ovimbundu, Bailundu. e. Instrument with iron keys on a wooden board, Ovimbundu, Elende. f. Musical bow, Ovimbundu, Elende. g. Strip of rattan; can be bent to form a musical bow. h. Frictional instru- ment, played by rubbing a stick on the grooves. One end of the bow is placed against the performer's teeth	449
78. Initiation rites. a. Newly circumcised boys, Vachokwe, Cangamba, Angola. b. Vachokwe boys confined after circumcision, Can- gamba, Angola	461
79. Initiation ceremonies. a. Whipping ceremony, Fulani tribe, Shendam, Nigeria. b. Women in charge of novices, Vanyemba, Ngongo, Angola	463
80. Village defence. a. Door in palisade, Ovimbundu, Ngalangi. b. Stra- tegic site on hill-top, Vasele, Angola	523
81. Vakwanyama warriors with tufted spears, bows, and throwing-clubs . .	525
82. Funeral rites. a. Bearers of a corpse, Ovimbundu, Elende. b. Grave near Caconda, Ovimbundu	559
83. Sacred reptiles. a. Python which has swallowed a goat, eastern Congo. Photograph by E. Heller. b. White crocodile, Ibadan, Nigeria. . .	569
84. Sacred groves. a. Priests of Ifé, Nigeria, in charge of terra-cotta heads. b. Terra-cotta heads in sacred grove, Ifé	573
85. Curing the sick. a. Vachokwe tribe, Cangamba, Angola. b. The cupping operation, Vachokwe, near Ngalangi	577
*86. Magical figure studded with nails, Loango Coast, mouth of Congo River .	579
*87. Head-piece of wood covered with skin, to be sewn to a medicine-man's costume, Balessing tribe, Cameroons	581
88. Granaries, Angola. a. Near Ngalangi, a clay and wattle structure. b. Vakwanyama, a basket under a thatch	589
89. Long-horned ox, Kukawa, Lake Chad	594
90. Negro hunters. a. Ocimbundu near Elende, Angola. b. Munshi near Katsina Ala, Nigeria	597
91. a. Hunter's trophies, Ovimbundu. b. Hunter's tomb, Ovimbundu, Luimbale	599
92. Wandorobo, hunters of Kenya. Houses are like those of Ituri Pygmies .	601
93. Food collecting and fishing. a. Beehive, eastern Angola. b. Fisher- man in bark canoe, Vachokwe, Cangamba	605

94. *a.* Ukwanyama man preparing hides by treading. *b.* Fishing by a weir at Maiduguri, Nigeria 607
95. Canoe of papyrus reeds, Buduma, Lake Chad 608
96. Carved wooden drum, Bamendjo tribe, Cameroons. Scale about 1:8. . . 615
- *97. Wood-carving, Nigeria. *a.* Stool, Nupe, Bida. Scale about 1:10. *b.* Stool, Munshi, Katsina Ala. Scale about 1:7. *c.* Adze and knife for carving stools, Bida. Scale about 1:10. *d.* Figure of Elebiti, deceased medicine-man, Yoruba, Ifé. Scale about 1:4. *e.* Modern wood-carving, Benin. Scale about 1:4. *f.* Doll, Yoruba, Ogbomosho. Scale about 1:6. *g.* Sandal, Buduma woman, Lake Chad. Scale about 1:6 617
- *98. Carved wooden boxes for kola nuts, Benin. Scale about 1:2 618
- *99. Carved wooden staffs and clubs, Ovimbundu and Vachokwe, Angola. Scale about 1:10. *a.* Ovimbundu, Elende. *b.* Vachokwe, Cangamba. *c.* Ovimbundu, Elende. *d.* Vachokwe, Kuchi. *e.* Ovimbundu, Elendi. *f.* Staff of dead king, from hut in which relics of kings are kept, Ngalangi. *g.* Vachokwe workmanship, obtained from an Ovimbundu, Elende. *h.* Staff of office, a ceremonial paddle, carried by headman of Lioko, a village of Ngalangi. *i.* Throwing-club for killing game, Ovimbundu, Elende. *j.* Swagger stick, Ovimbundu, Elende. 619
- *100. Wood-carving, Ovimbundu, Angola 621
- *101. Ornamented gourds, Nigeria. Scale about 1:7. *a.* Gourd dyed indigo, Bida. *b.* White incised gourd, Ogbomosho. *c.* Black wooden bowl, Potiskum. *d.* Gourd dyed red, scraped to form patterns. *e.* Gourd with incised and burnt patterns on a yellow surface, Maiduguri. *f.* Gourd, incised and burnt on yellow surface, Nupe, Bida 623
102. Wood-carving, Angola. *a.* Medicine-man's figurine, Ovimbundu, Cuma. *b.* Head of club, Vachokwe, Cangamba. *c.* Hair comb, Vachokwe, Mona Quimbundo. Scale about 1:2 (from sketch by Lucile Ward) 625
103. Grove, Ifé, sacred to Ogun, patron of blacksmiths. Contains first hammer and anvil of Ogun. Remains of a sacrificed dog are on the anvil 627
- *104. Bronze-casting from Benin. Scale about 1:4 628
- *105. Beaten brasswork, Nupe tribe, Bida. Scale about 1:5. *a.* Round bowl. *b.* Ewer for water, used by Mohammedans for washing hands before prayer. *c.* Oval tray. *d.* Woman's copper anklets, Buduma, Lake Chad. *e.* Round tray, Bida. *f.* Arm dagger and brass scabbard. *g.* Vessel for kola nuts 631
106. Making pottery, Ogbomosho, Nigeria. *a.* Polishing a pot with a pebble. *b.* Firing insides of pots 633
107. *a.* Winding cotton, Iseyin, Nigeria. *b.* Making the base of a pot by pounding clay, Kano, Nigeria 637
108. Weaving by men. *a.* Weaving cotton, Kano, Nigeria. *b.* Weaving raffia fiber, Cameroons 638
109. Woven Kabyle rug (presented to Field Museum by Mr. Homer E. Sargent) 639
- *110. Beaded gourds for holding palm wine. Scale about 1:5 640
- *111. Beaded wooden stool, central Cameroons. Scale about 1:5 641

*From objects in Field Museum.

Objects from Angola were collected by the Frederick H. Rawson-Field Museum Ethnological Expedition to West Africa, 1929-1930.

MAPS

FACING
PAGE

- | | | |
|----|--|-----|
| 1. | <i>Approximate</i> positions of principal tribes and places mentioned in the text.
Scale: 1 inch=804 miles | 16 |
| 2. | Climatic and vegetation zones. Scale: 1 inch=1130 miles | 32 |
| 3. | Tentative scheme for distribution of language families. Scale: 1 inch=
804 miles | 288 |
| 4. | Culture areas shown approximately by shaded boundaries and broken
lines. Arrows indicate Mohammedan influence. Scale: 1 inch=880
miles | 324 |
| 5. | Approximate political boundaries of European possessions. Scale: 1
inch=804 miles | 672 |

FOREWORD

Dr. Hambly and I fully realize that this source book is far from perfect; yet an industrious and unbiased attempt has been made to bring together within the covers of one book a summary of all the most important facts that are known about Africa. This alone is a meritorious task, since the book contains more information about Africa, and a better bibliography of the literature for that continent, than any other work in English with which I am acquainted.

Possibly the linguist, the physical anthropologist, and the archaeologist will hoist the flag of battle, will bear down on the section about which he knows most, and will utter loud protests. The charge will be that the section under fire is not adequately treated and that Dr. Hambly is not a "specialist" in that field.

We freely admit that more might be written concerning any one of the many topics that are treated herein, but excess of detail would obscure the main issues and would add greatly to the cost of production. This source book merely attempts to assemble and discuss the significant results of anthropological work in Africa, and for this reason meets an urgent need.

PAUL S. MARTIN

November 1, 1937

PREFACE

In a recent presidential address to the Royal Anthropological Institute the Reverend E. W. Smith asked, "What do we know of Africa? The answer can be summed up in a few words: Very little as yet. Whatever department we examine, the tale is much the same. We have only scratched the surface of things hitherto. But it is something to see the immensity of the task confronting us if we are to gain sure knowledge of Africa and its inhabitants."

The truth of this statement might at first glance discourage the idea of preparing a general survey. But there is a strong argument in favor of summarizing information gleaned up to the present, co-ordinating this knowledge, interpreting the data as far as possible, pointing out the unsolved problems, and so providing a basis for further research.

No attempt has been made to compile an encyclopedia. Rather, an introductory textbook has been prepared, because experience has proved that students too often begin a study of some specific and intricate African problem without a groundwork of geography, biology, history, and general ethnology. To disarm the criticism of experts in linguistics, physical anthropology, and prehistory, it is necessary to emphasize the purpose of the book. The work is a general elementary introduction, which aims at presenting African people and their problems briefly, simply, and as a whole.

In the address quoted, the President urges breadth of view in anthropological treatment. He advises that we "lift our eyes from the tasks in which we are engaged and take a glance at what our fellow workers are doing on the other side of the hedge, remembering that no one problem is solved until all problems are solved."

Section I is a broad introduction to the salient facts of physiography, biology, archaeology, physical anthropology, and the distribution of language families.

The second section views the continent in the light of culture area concepts, with emphasis on the fact that these zones, though characterized by specific traits, are not isolated. The overlapping of zones is fully recognized, so as to avoid a false impression of simplicity and clear demarcation.

In the third section the division of the great forest zone and its periphery into cultural subdivisions has not been attempted. The object has been merely to summarize and to classify the factual

material with which students will have to deal, since the time is not yet ripe for plotting the zones of distribution with precision. A task of this kind cannot be successfully attempted until additional field work has been done. Nevertheless, an approximate distribution of some traits is given, and certain broad areas of characterization are recognized, but in general the section is limited to a discussion of social, religious, and economic traits that can fairly be called fundamental to Negro culture.

Finally, the European period is introduced, with an account of exploration, partitioning among European powers, and a summary of the problems affecting the welfare of Africans under a foreign administration.

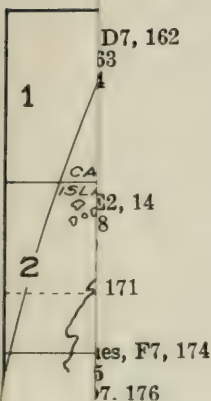
The greatest danger arising from an attempt to condense is the tendency to leave a false impression of simplicity and finality. But a large bibliography is provided and fully used in the text to point the way to further exposition of debatable themes, whose expansion would make too great a demand on the space available.

During the preparation of the Bibliography of Authors I have frequently had the advantage of advice and assistance from my librarian colleague, Eugene Victor Prostov, who kindly prepared the final bibliographical section dealing with sources for African research. These sources Mr. Prostov classified according to the political divisions of Africa. Maps and line drawings have been prepared by Staff Illustrator Carl F. Gronemann.

For assistance in preparing the chapters on physical features and nature study I am indebted to my Field Museum colleagues.

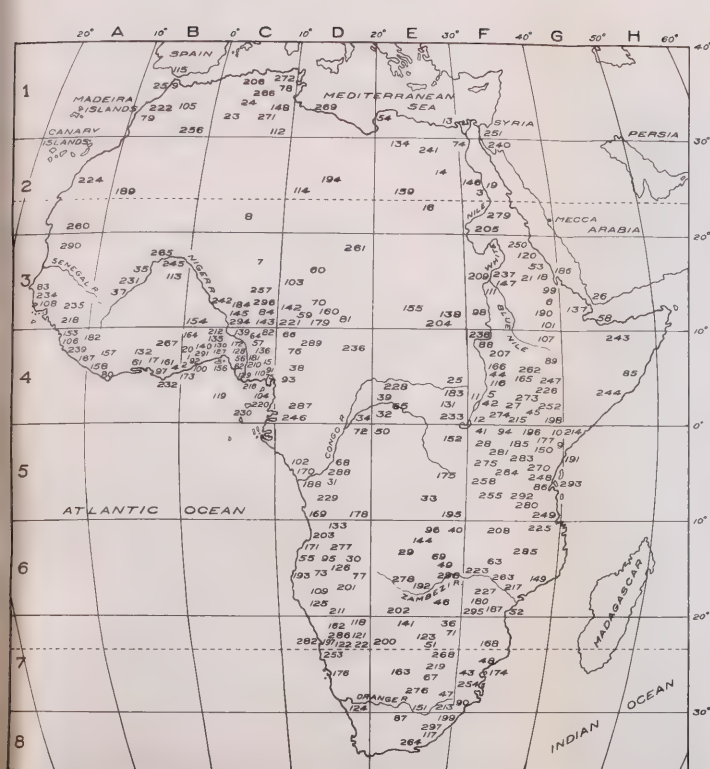
Dr. B. E. Dahlgren and Mr. Paul C. Standley, botanists; Dr. Wilfred H. Osgood, Mr. Karl P. Schmidt, Mr. Rudyerd Boulton, and Mr. A. C. Weed, zoologists; also Mr. Sharat K. Roy, geologist, all assisted in choice of literature, selection of photographs, and reading of proofs.

WILFRID DYSON HAMBLY



Sahara, A2, B2, C2, D2, E2
 Salisbury, F6, 227
 Sandawe, F5, 292
 Sanga, E4, 228
 San Salvador, D5, 229
 São Thomé, C4, 230
 Segu, B3, 231
 Sekondi, B4, 232
 Semi-Bantu, C4, D4
 Semliki, E4, 233
 Senegal, A3, 234
 Sennar, F3, 111
 Senussi, E1, E2, E3
 Serer, A3, 235
 Shari, D4, 236
 Shendy, F3, 237
 Shilluk, F4, 238
 Shire River, F6, 208
 Sierra Leone, A4, 239
 Sinai, F2, 240
 Siwa, E2, 241

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 OF THE
 UNIVERSITY OF ILLINOIS



MAP 1. Approximate positions of principal tribes and places mentioned in the text.

Scale 1 inch=804 miles.

Abolcuta, C4, 1
Aomey, C4, 2
Abydos, F2, 3
Abyssinia, F4, F3, G4, G4
Accra, E4, 4
Achoi, F4, 5
Adowa, F3, 6
Agades, F3, 7
Ahaggar (Hoggar), C2, 8
Air (Asben), C3, 7
Akamba, F5, 9
Akikuyu, F5, 10
Albert Edward Nyanza, F4, 11
Albert Nyanza, F4, 12
Alexandria, E1, 13
Algeria, C1
Alga Bay, E8, 264
Angas, C4, 15
Anglo-Egyptian Sudan, E3, F3
Angola, D5, D6
Arabs, B1, C1, D1, E1, A2, E2, E3, F3, F5
Arkenu, E2, 16
Arben (Afr), C3, 7
Asanti, B4, 17
Asmara, F3, 18
Assuan, F2, 19
Atakapan, C4, 20
Atbara, F3, 21
Atlas Mountains, B1, C1
Auen Bushmen, D7, 22
Aued Ziane, C1, 23
Aurea Mountains, C1, 24
Azande, E4, 25

Bageu, F4, 27
Baggara, D3, E3
Bahima, F5, 28
Ba-ila, E2, 29
Bailundu, D6, 30
Bakongo, D5, 31
Bakuba, E4, 32
Baiuba, E5, 33
Bambala, D4, 34
Bambara, B3, 35
Bambata Cave, E7, 36
Bammako, B3, 37
Bamum, D4, 38
Bangala, E4, 39
Bangwelo, E5, 40
Bantu, D4, E4, G4, D5, E5, F4, F5, D6, E6, F6, D7, E7, F7
Banyankole, F5, 41
Banyanzi, E5, 50
Banyoro, F4, 42
Bapidi, F7, 43
Bari, F4, 44
Baringo, F4, 45
Barotse, E5, 46
Baueto, E7, 47
Bathonga, F7, 48
Batwa, D5, E5
Bavenda, E5, 49
Bechuana, E7, 51
Bedouin Arabs, B1, C1, D1, E1, E2, E3
Beira, F6, 52
Beja, F3, 53
Belgian Congo, E4, D5, E5
Benghazi, E1, 54
Benguela, D6, 55
Benin, C4, 56
Benue, C4, 57

Berbera, G3, 58
Berbers, B1, C1, D1, E1, A2
Beri Beri, D3, 59
Bilma, D3, 60
Bingerville, D4, 61
Bini, C4, 62
Blantyre, F6, 63
Blue Nile, F3, F4
Bolewa, C4, 64
Boloki, E4, 65
Bornu, D4, 66
Boskop, E7, 67
Brazzaville, D5, 68
British East Africa (Kenya), F4
Broken Hill, E6, 69
Buduma, D4, 70
Bulawayo, E7, 71
Busa, C3, 294
Bushmen, D7, 72
Bushongo, D6, 72
Buzu, B3, C3, D3
Caconda, D6, 73
Cairo, E2, 74
Calabar, C4, 75
Cameroons, D4, 76
Cangamba, D6, 77
Carthage, C1, 78
Casablanca, B1, 79
Cavalry River, B4, 80
Chad, D3, 81
Chum, C4, 82
Congo, D4, E4, D5, E5
Cynensis, E1

Damaraland, C4, 84
Damergu, C3, 84
Danakil, G4, 85
Dar-es-Salaam, F5, 86
Darfur, E3
Dharar, E3, 87
Dikla, F4, 88
Doko, F4, 89
Durban, F7, 90
Efik, C4, 91
Egba, C4, 92
Egypt, E2, E3, F2, F3
Elam, D4, 93
Elende, D6, 95
Elisabethville, E6, 96
Elmentaita, F5, 94
Elmina, B4, 97
El Obeid, F3, 98
Eritrea, F3, 99
Ethiopia, F3, F4, G3, G4
Ewe, C4, 100

Falasha, F3, 101
Fai, F5, 102
Faishi, D3, 103
Fernando Po, C4, 104
Fes, B1, 105
Ffous, C4, 2
Freetown, A4, 106
French Guinea, A3
French Niger Territory, C3, D3
French Sudan, B3
Fulani, A3, B3, C3

Galla, F4, 107
Gambia, A3, 108
Gambos, D6, 109
Ganawuri, C4, 110
Gebel Moya, F3, 111
Ghadames, C1, 112
Ghana, B3, 113
Ghat, D2, 114
Gibraltar, B1, 115
Gondokoro, F4, 116
Grahamstown, E3, 116
Grootfontein, D7, 118
Guinea Gulf, C4, 119
Hadendou, F3, 120
Hamites, B1, C1, D1, E1, F1, A2, B2, C2, D2, F2, A3, B3, C3, D3, E3, F3, G3, F4, G4

Hausa, B3, C3, D3
Heikun Bushmen, D7, 121
Hierro, D7, 122
Hiechware Bushmen, E7, 123
Hoggar (Ahaggar), C2, 8
Hotentots, D7, 124
Huambo (Nova Lisboa), D6, 126
Huila, D6, 125
Ibadan, C4, 127
Ibibio, C4, 128
Ibo, C4, 128
Ido, C4, 128
Ile, C4, 129
Ijaw, C4, 129
Ilebu, C4, 130
Ilorin, C4, 130
Iruir, F4, 131
Ivory Coast, B4, 132

Jagabub, E2, 134
Jagas, D6, 135
Jebba, B4, 135
Jibu (Jukun), C4, 136
Jibuti (Djibuti), G3, 137
Jos Plateau, C4, 138
Jukun, C4, 138
Kababish, E3, 138
Kabyles, C1, 139
Kaduna, C4, 139
Kagoro, C4, 140
Kalahari, E7, 141
Kamemba, D8, 142
Kano, C3, 143
Katanga, E6, 144
Katsina, C4, 145
Kenya, F4
Kenya, F4
Khartum, F3, 147
Khrumir, C1, 148
Kilimanjaro, F5, 150
Kimberley, E7, 151
Kivu, E5, 152
Kona, C4, 153
Konakry, A4, 154
Koukumba, C4, 154
Kordofan, E3, 155
Kotonou, C4, 156
Kowar Oasis (Bilma), D3, 60
Kpelle, B4, 157
Kru, B4, 158

Kufra, E2, 159
Kuku, D3, 160
Kumasi, B4, 161
Kung Bushmen, D7, 162
Kuruman, E7, 163
Kussasi, C4, 164
Lagos, C4, 165
Lango, F4, 165
Latuka, F4, 166
Liberia, B4, 167
Libyan Desert, E2, 168
Limpopo, E7, 168
Loanda, D5, 169
Loango, D5, 170
Lobito Bay, D6, 171
Lokoja, C4, 172
Lome, C4, 173
Lourenço Marques, F7, 174
Luabala, E5, 176
Luderitz Bay, D7, 176
Lumbwa, F5, 177
Lunda, D5, 178

Maiduguri, D3, 179
Makalanga, F6, 180
Makuri, C4, 181
Mandingo, B4, 182
Maradi, C3, 184
Masai, F5, 185
Masawa, G3, 186
Matabele, F6, 187
Matadi, D5, 188
Mauretainia, A2, B2, 189
Midgan, F3, 190
Mombassa, F5, 191
Monbuttu, E4, 193
Monomotapa, E5, 192
Morocco, B1, C1
Mossamedes, D6, 193
Munshi, C4, 136
Murzuk, D2, 194
Mweru (Moero), E5, 195

Nairobi, F5, 196
Naivasha, F5, 196
Nakuru, F5, 196
Nama Hotentots, D7, 124
Namb Bushmen, D7, 197
Nandi, F4, 198
Naron Bushmen, E7, 200
Natal, E5, 199
Ngaland, E6, 201
Ngami, E6, 202
Ngongo, D6, 201
Niger, B3, C3, C4
Nigeria, C1, D1, C4
Nile, F2, F3, F4
Nilotite Negroes, F4, 44, 88, 207
Nova Lisboa (Huambo), D6, 126
Novo Redondo, D6, 203
Nuba, E3, 204
Nubia, F2, 205
Nuera, F4, 207
Numidians, C1, 206
Nupe, C4, 130
Nyusaland and Nyasa Lake, F6, 208

Obongo, D5, 170
Ogobomoso, C4, 130
Ogowe, D5, 182
Okavango, E6, 202, E7, 141
Old Calabar, C4, 75
Omdurman, F3, 209
Onitsha, C4, 210
Orange Free State, E7, 151
Ouenat, E2, 16
Ovambo, D6, 211
Ovimbundu, D6, 126, 201, 73

Pankeshin, C4, 15
Panakou, C4, 212
Pietermaritzburg, E7, 213
Pillars of Hercules, B1, 115
Pokomo, G5, 214
Port Elizabeth, E8, 264
Port Florence, F4, 215
Port Harcourt, C4, 216
Port Herald, F6, 217
Portuguese East Africa, F6, F7
Portuguese Guinea, A3, 218
Portuguese W. Africa (Angola), D5, D6
Potiskum, D6, 221
Pretoria, E7, 119
Principe, C4, 230
Pygmies, see Batwa, Doko, Ituri, Obongo, Wambuti

Quilmane, F7, 149
Rabat, B1, 222
Red Sea Province, F3, 53
Rhodesia, F6, 223
Rift Valley, F4, F5
Rio de Oro, A2, 224
Rovuma River, F6, 225
Rudolf, Lake, F4, 226

Sahara, A2, B2, C2, D2, E2
Salisbury, F6, 227
Sandawe, F5, 292
Sanga, E4, 228
Santo Salvador, D5, 229
São Thomé, C4, 230
Segu, B3, 231
Sekondi, D4, 232
Semi-Bantu, C4, D4
Semliki, E4, 233
Senegal, A3, 234
Sennar, F3, 111
Senussi, E1, E2, E3
Serer, A3, 235
Shari, D4, 236
Shendy, F3, 237
Shilluk, F4, 238
Shire River, F6, 208
Sierra Leone, A4, 239
Sinni, F2, 240
Siwa, E2, 241
Sokoto, C4, 242
Somali, C4, 243, 244
Somaliand, British, G4, 243
Somaliand, French, G3, 137
Somaliand, Italian, C4, 244
Songhai, B3, 245
South West Africa, D7
Spanish Guinea, D4, 246
Stefani, Lake, B4, 247
Suakin, F3, 250
Sudan, B3, C3, D3, E3, F3
Suez Canal, F1, 251
Suk, F4, 252
Swahili, F5, 248, 249
Swakopmund, D7, 253
Swaziland, F7, 254

Tabelle, C3, 7
Tabora, F5, 255
Tadlet, B1, 256
Tahoua, C3, 257
Tanganyika, Lake, and Territory, F5, 258
Tangier, B1, 259
Teghaza, A2, 260
Temne, A4, 259
Tese, F4, 262
Tete, F6, 263
Tibbu, (and Teda), D3, 261
Tibesti, D3, 261
Togoland, B3, 265
Timgad, C1, 266
Togoland, B4, 267
Transvaal, E7, 268
Tripoli, C1, 269
Tripolitania, D1
Tsavo, F5, 270
Tshi, H4, 47
Tungu, E2, C2, D2, B3, C3
Turgut, C1, 271
Tunisia, C1, 272
Turkana, F4, 273
Typungu, D6, 125
Uganda, F4, 274
Ujiji, F5, 275
Umpata, D6, 125
Vaal River, E7, 276
Vai, B4, 167
Vakwanyama, D6, 211
Vanhaneke, D6, 109
Vasele, D6, 277
Victoria Falls, E6, 278
Victoria Nyanza, F4, 215
Wachaga, F5, 150
Wadi Halfa, F2, 279
Walche, F5, 280
Waikoma, F5, 281
Walish Bay, D7, 282
Wambuti, E4, 283
Wandoroblo, F3, 283
Wanyamwezi, F6, 284
Wayao, F6, 285
White Nile, E2, F3, F4
Windhoek, D7, 286
Yalala Falls, D5, 288
Yala, D4, 287
Yola, D4, 288
Yolofs, A3, 290
Yoruba, C4, 291
Zaire (Congo), D5
Zambezi, E6, F6
Zande, (Azande), E4, 25
Zanzibar, F6, 293
Zaria, C3, 294
Zimbabwe, F6, 295
Zinder, C3, 296
Zulu, E8, 297
Zumbo, E6, 298

SOURCE BOOK
FOR
AFRICAN ANTHROPOLOGY

SECTION I: OUTLINES OF AFRICA

SOURCE BOOK FOR AFRICAN ANTHROPOLOGY

I. PHYSIOGRAPHY AND NATURE NOTES

PHYSICAL FEATURES

Although the primary aim is a description of the cultures of Africa it is impossible to understand the great migrations and the modes of life, together with the distribution of languages and physical types, without a preliminary survey of the continent itself. The size, shape, and position of the land mass, the mountains and valleys, the river systems and lakes, and the distribution of minerals and types of soils have profoundly affected the history and development of Africans and Europeans.

CONTINENTAL JUNCTIONS AND HUMAN MIGRATION

Since theories of continental connection (Wegener, 1922, trans. by Skerl, 1924; and Perrier, 1925) relate to periods before the advent of man, they may be omitted. But the question of African-European land bridges in the early Pleistocene is of importance to anthropological study of Africa. Sollas (1924, p. 132) describes bridges by way of Malta and Sicily in the Chellean culture period of the Pleistocene, but these assumptions have been challenged recently (Woodward, 1935, p. 130). Students of African archaeology will therefore have to reserve their final judgments respecting human migrations in the early Pleistocene.

Unless the geological time of subsidence of a land bridge is ascertained, a hypothesis for explaining the wanderings of people is extremely unreliable, but fortunately some land connection between Africa and Asia is known. The peninsula of Sinai in northeast Africa connects that continent with Arabia and farther Asia; and the justifiable assumption is that this land bridge has existed throughout the whole development and wanderings of man. At the southern end of the Red Sea the narrow strait of Bab-el-Mandeb separates Arabia from Africa, and ready transit between Arabia and Africa at this point was no doubt possible during a long prehistoric period even without a land bridge.

The probability of such communication will be seen when we make a comparative study of the physical measurements of Arabs of southwest Arabia with anthropometric data for inhabitants of the opposite coast.

The latest discoveries of fossil mammals in the caves of Palestine and Syria, as interpreted by Miss Dorothea M. A. Bate, show that during the early half of the Pleistocene period, Asia and North Africa were much more closely connected than they have been since. The country was comparatively well watered, with luxuriant vegetation and forests, and mammals could readily migrate both east and west. Even an animal so characteristic of Africa as the warthog (*Phacochoerus*) was then living in Palestine. The connection of Asia with Africa was thus as definite as the connection of Asia with Europe; and the explanation of the partial identity between the Pleistocene mammals of Africa and Europe is probably that they had a common source in Asia and diverged west in two different directions, one southwards, the other northwards (Woodward, 1935, p. 131).

SIZE AND COAST LINE

The area of Africa is twelve million square miles, four times that of the United States of America. The distance from north to south is about five thousand miles, and the breadth a few hundred miles less. Such great dimensions are best appreciated by remembering that the distance from New York to San Francisco is about three thousand miles. Africa is situated on the hottest part of the earth's surface. The continent is almost bisected by the equator; hence, the greater part of the land lies within the tropics.

Africa has a coast line that is short and unbroken in relation to the great surface, and this fact is important in relation to climate, exploration, and commerce. The sea always has a moderating effect on land temperatures because water is more constant in temperature than a large mass of land. Consequently, proximity of the ocean tends to warm the land in winter and to cool it in summer. But the coast of Africa has inlets which are small in size and number compared with the surface area; hence the moderating effect of the sea on inland temperatures is not appreciable. In early days of exploration, journeys were made more difficult by the absence of inlets, and even as late as 1870 Stanley's name of the "Dark Continent" was well chosen, since most of the interior was at that time unexplored.

In addition to retarding exploration, the absence of natural harbors is an obstacle to commerce. At some ports on the west coast vessels anchor almost a mile from the shore to discharge passengers and cargoes into surf boats which are paddled ashore by native crews. But this natural disadvantage of the west coast is

yielding to engineering skill, which has been directed toward building breakwaters and dredging natural inlets.

SURFACE CONTOURS AND HUMAN LIFE

In addition to location, shape, and coast line the biological importance of internal features should be considered. Deep depressions and high mountains affect climate, natural products, and the culture of the inhabitants. Mountains form barriers to communication, while depressions like that of the Rift Valley in northeast Africa have determined the direction of migratory peoples.

Volcanic disturbances have affected the survival and distribution of human and animal life, though doubtless many great cataclysms occurred before man had established himself in Africa. Yet Leakey (1936a, pp. 25-26) offers the hypothesis that a convulsion resulting in the formation of the Rift Valley led to the extinction of a very large number of species of animals that formerly flourished in Kenya, and he adds, "If my view is correct, it is not impossible that man too was wiped out in the regions round the Great Rift Valley. Certainly we know that whereas four distinct culture groups were in existence in Kenya before the formation of the Great Rift Valley, only two are present in the deposits which represent the period immediately following it."

Africa is a plateau with an average height of two thousand feet above sea level. In east Africa the mountains Ruwenzori, Kenya, and Kilimanjaro are the principal elevations. Kilimanjaro, which is capped with snow throughout the year, attains a height of 19,321 feet, while Ruwenzori (16,800 feet) is an important elevation between lakes Albert and Albert Edward Nyanza; but Ruwenzori, unlike some adjacent mountains, is not an ancient volcano.

Traveling from low to high altitudes gives a convincing demonstration of the effects of elevation on temperatures. In a few hours the heat of the coast region of Portuguese West Africa can be exchanged for cold winds of a high plateau four thousand feet above the sea, where nightly temperatures fall almost to the freezing point.

In Nigeria a journey northward from the coastal belt of dense, moist forests having a high temperature combined with great humidity leads to a plateau region whose nightly cold approaches freezing point. When the journey northward is continued for a few hundred miles the dry heat of the desert forms a sharp contrast with the moist heat of the forest belt. In flat, open desert

great extremes of temperature are experienced between day and night, especially in the period from October to December when the Harmattan wind is blowing. This wind causes an exceptionally rapid fall of temperature after midnight.

Before studying human life the basic fact has to be grasped that Africa, owing to vast area and differences in elevation, has many and varied ranges of temperature and moisture, with consequent diversity of plant and animal life. There exist, however, definite climatic zones which will be described later.

Geological formation has affected climate, not only by determining elevation but by the formation of great lakes. Victoria Nyanza, which is twenty-six thousand square miles in area, also Mwero and Bangweolo, do not belong to the Rift Valley system, but occupy depressions in the general level of the plateau.

On the contrary, lakes Tanganyika and Nyasa, both of which are valuable aids to communication, lie in the Rift Valley. Lake Tanganyika is of particular interest because of a rich fauna. Animal life includes many fish and mollusks peculiar to this lake, a fact which proves long isolation from other fresh-water systems. Geological factors have been responsible for the formation of lakes with their riverine connections, and these lacustrine features have influenced climate, communication, and food supply (J. W. Gregory: 1896; 1920, pp. 13-47; 1921. E. B. and S. Worthington, 1933).

Willis (1936) in a section "Historical Retrospect" has surveyed theories of rift formation advanced since 1825. He compares the views of Beaumont, Suess, Gregory, Wayland, Krenkel, and others who have attempted to explain the way in which force may be exerted to cause a parting of the earth's crust, in such a manner that two or more adjacent strips become displaced and a rift valley is formed. The bearing of these geological arguments on human life will be fully realized in reading chapter III, which deals with culture sequences of the stone age.

RIVERS AND HUMAN ENTERPRISE

Formative influences which determined the height of the plateau regions, the position of valleys, and the direction of inclines also marked out the courses of four principal rivers, the Nile, Niger, Congo, and Zambezi, for the details of which Fitzgerald (1934) should be consulted.

Of these the Nile is the most familiar because of its Biblical connection and the mystery which surrounded its source and annual

rise. So far back as A.D. 60 the Roman Emperor Nero sent two centurions on a journey of discovery, and their record shows that the expedition penetrated the marshes of the upper Nile, where live the tall Nilotic Negroes, Dinkas, Shilluks, Nuers, and Anuak. The impressive stature of these tribes was described, and in addition to this the centurions mentioned their difficulty in cutting a way through the floating vegetation of the marshes.

In the year 400 B.C. the Greek philosopher Aristotle guessed at the cause of floods along the course of the Nile, when he stated that the annual rise of the river was due to the melting of snow combined with summer rains in Ethiopia (Abyssinia), where the tributaries Blue Nile and Atbara have their origin. Usually the Nile rises at the end of June and continues in flood until the end of September, when a height of twenty-five feet above low level is generally recorded at Cairo. Should the rise exceed this there is danger to life and property, but an abnormally low rise means famine and poverty.

The civilization of Egypt, which is one of the most impressive instances of the growth of a complex culture, has depended on this annual overflow of the river, which left a deposit of mud and a surplus of water that could be conducted for long distances through irrigation canals. Modern engineering, especially the dam at Assuan, is an apt instance of man's successful effort to make himself less dependent on natural phenomena, for the waters can now be impounded and released at will.

That the Egyptians themselves fully realized their dependence on the flooding of the Nile Valley is clear from their mythology and sacred texts. The old Egyptian word *quem* refers to the deposit of black mud left by the receding waters, and the *ta-mera* of ancient Egyptian literature describes the inundation. The following brief paragraph will serve to illustrate the influence of geographical conditions on economic welfare and spiritual beliefs.

Egyptians of 3500 B.C. had certainly no accurate knowledge of the true source of the river and the cause of its floods. Sacred texts refer to the Nile god as the "hidden one" whose "secret places" were a matter for conjecture. Mythology taught that the Nile surrounded the whole world, and that the river was part of a celestial ocean on which sailed the boats of the Sun god. Egyptian pictures show the source of the Nile as a cavern guarded by a hippopotamus-headed goddess who is armed with a large knife. Another illustration portrays two gods wearing papyrus and lotus blossoms respectively; one of the deities represents the northern and the other the southern

part of the river. One picture shows a Nile god in his cavern pouring out the waters of the White and Blue Niles. A hymn to the Nile god has been translated from a papyrus in the British Museum.

Thou waterest the fields which Ra hath created. Thou givest life unto all animals. Thou art the friend of bread and drink. Thou fillest the storehouse and makest the granaries to overflow.

The River Congo, though shorter than the Nile by a thousand miles, has a greater volume of water than any other African river. The length of the Congo is three thousand miles—about the breadth of the United States. The river is not straight, however, but makes a large northward curve which acts as a drainage system for the forested area of central Africa. The wide estuary is situated about the middle of the west coast. Far from the shore the sea is yellow in color, and at the point where the incoming tide clashes with the outward rush of the river a bar of foam, seaweed, and driftwood has been formed.

The Niger, with a length of 2,600 miles, makes a great horseshoe formation in west Africa. For more than two thousand years the location of the estuary was unknown, and no river, with the exception of the Nile, has been of such great historic interest. The Niger and its tributary Benue are the principal water highways for the whole of west Africa. The Zambezi, 1,600 miles long, drains a large area in the southeast of the continent.

The process of differential erosion is of importance in connection with a study of river systems, because the unequal hardness of the strata has led to formation of cataracts that have impeded exploration and commercial development. On the Nile are four cataracts. The Niger is obstructed by the Busa Rapids. The Yalala Falls obstruct the Congo. Narrowing of the River Zambezi at the Victoria Falls provided crossings above and below the cataract, and over these constrictions of the river passed human migrations from the east side of the continent.

MINERALS AND CIVILIZATION

The early geological processes, including tilting of strata, have been responsible for the outcropping of mineral deposits that have affected human activities both ancient and modern, from the time when stone-age man sought beds of flint, until the recent rush for gold and diamonds.

The oasis of Kharga is situated a hundred miles west-by-south of Abydos on the River Nile. Airplane photographs taken by Lady Bailey indicate that the part of the Libyan desert in which the oasis

is situated is a scene of complete desolation, though the oasis itself contains wells and the remains of conduits cut by Romans and Persians.

Miss Caton-Thompson (1931a, 1931b, 1932) states that Kharga shows one of the most remarkable flint-chipping areas that it can ever have been the lot of man to see. Here are querns and hand-rubbers for grinding grain, flint flakes, and chipped axes. A more advanced technique is illustrated by translucent flint arrowheads, and there is evidence of a stone-age industry which in some of its aspects antedated the historical period (4000 B.C.) by thousands of years. Evidently the early sites of stone-age man were geologically determined by the presence of suitable material.

During millions of years the mineral wealth of Africa lay untouched, until at last man discovered the economic importance of metals and made them play a part in his culture. The mining and forging of iron by Negroes has given rise to several hypotheses respecting the origin and dispersal of these industries. But, whatever the history may be, the fact remains that iron ore is abundant near the surface, and the blacksmith's art was well developed among Negroes before the arrival of Europeans.

The origin of the bronze-casting industry of west Africa is unknown, but the art flourished before the European period began, and the making of the alloy depended on the occurrence of tin and copper. Again, the copper mines of Katanga in the southern Belgian Congo have been important in human affairs in both ancient and modern times. The eagerness of Europeans to exploit these mines has led to the development of new railways and river-boat services. Before the use of European currencies became general, copper from Katanga was made into large units of exchange shaped like a letter X, and this currency was carried far and wide by native caravans.

Mungo Park (1799, p. 285) described native methods of washing the soil for gold in west Africa. Some of the valuable metal was fashioned into personal ornaments, but much of it in the form of gold dust was traded across the western Sahara to Tighaza in exchange for salt from that region. The native gold industry lured Europeans, who finally explored and annexed the country.

History of the Union of South Africa is concerned with the cupidity of prospectors and company promoters who have coveted the gold and diamond mines. In this scramble for wealth the interests of native Africans have generally been neglected. Negroes have gathered from long distances in response to demands for labor in the

mines, and not infrequently they have failed to understand the nature of the labor contracts to which they agreed. Moreover, work underground and the life in compounds have proved physically and morally injurious, while native social organization has been disrupted at its source by withdrawal of the male population. For a time Chinese labor was introduced into the mines, but the resulting complications of a social and political kind led to the discontinuance of this practice. Clearly, the presence of gold and diamonds, a geological factor, has determined the course of south African history, and in Lunda, northeast Angola, the social conditions of Africans are deeply affected by the presence of diamond mines.

Although Gautier (1928) doubts the maritime formation of the Sahara (p. 5) he rightly insists on the biological and historical importance of salt deposits. Teghaza in the northwest Sahara has throughout historical times been important for production of salt, an industry which has proved a stimulus to caravan trade, and a cause of commercial rivalry and warfare. From Bilma in the southern Sahara salt cakes are traded east, west, and south, and the supplies are still responsible for annual caravan trade on a large scale between Bilma and the southeast side of the Air Mountains. Buchanan (1926, p. 73) describes the concourse from the great trade centers of Kano, Katsina, Sokoto, and Zinder, until a caravan of seven thousand camels was assembled at Air. Another valuable deposit that influences human activities is the beds of natron on the shores of Lake Chad. The oval cakes are traded for long distances since the potash is a valuable ingredient in the drinking water of domestic animals (Vischer, 1910, p. 301). Fig. 1 shows the unloading of cakes of natron at Baya Seyarum on the western shore of Lake Chad. Trade in minerals resulting directly from geological factors, has been responsible for great physical, cultural, and linguistic interchanges.

Without dogmatic acceptance of a theory of geographic determinism the control of geographic factors over human life can clearly be demonstrated for the continent of Africa. Our future studies of culture areas will illustrate the adaptability of man, but the data will likewise stress his limitations. Advances in engineering and biological science will profoundly affect the present status of human communities in Africa, solving old problems of adjustment and creating new ones. But throughout this flux nature will play a part, perhaps capriciously by climatic changes, and the picture is one of unending battle to secure a series of temporary adjustments between man and his environment.



FIG. 1. Unloading natron, Baya Seyarum, Lake Chad.

FUTURE RESEARCH

To prepare the way for future anthropological study better maps of Africa are needed. I thought when traveling in Angola in the year 1929 that available maps were astonishingly incomplete and inaccurate. For many parts of Africa revision of the spelling of place and tribal names is urgent. The confusion and difficulty likely to arise from preparing a gazetteer of tribal names will be realized by consulting J. Maes and O. Boone (1935), whose excellent summary of Belgian Congo tribes shows that certain tribal names may be spelled in a dozen different ways. Sometimes the names are entirely different though they designate the same people.

In topographical research there is need of great endeavor; for example, on the subject of soil erosion (Hobley, 1933; Champion, 1933), and the utilization of underground supplies of water (A. B. Thompson, 1933). The local geological researches of E. J. Wayland (1934) in Uganda are typical of the concentrated surveys necessary to explain human prehistory in geological terms. E. B. and S. Worthington (1933) have directed attention to the geological and biological importance of the lake systems of east Africa, but many more studies of this type are required.

To expand these introductory remarks and to prepare the way for intelligent comprehension of Africa as a whole several types of literature are available.

READING RECOMMENDED

For one beginning a course on Africa I would recommend as preliminary general reading a few of the older books (Drummond, 1899; W. Reade, 1864, 1872), outmoded, perhaps, yet of human qualities, humor, and insight that preserve their value.

The summary of E. W. Smith (1935) should be carefully read, and as elementary textbooks C. G. Seligman (1930) and Hambly (1930a) will provide useful introductions. In German, Buschan (1922) has provided a digest of African ethnology. Both Hambly and Buschan are concerned principally with the material cultures of geographical zones. Huxley (1931a) has given in "Africa View" a general survey of the geological and biological factors entering into human life in east Africa, together with an appraisal of educational and social problems. R. R. Marett's "Anthropology" (1912) is a bright and stimulating introduction, touching on the antiquity of man, race, environment, language, social organization, law, religion, and morality.

The general theory of geographic determinism is expounded by Huntington (1907, 1914, 1915, 1926), Semple (1914), C. E. P. Brooks (1925), Forde (1934), Pomfret (1935), and Bowman (1934). The most comprehensive modern work in French is "*La géographie humaine*" in three volumes by Brunhes (1925). W. M. Davis (1911) has contributed a helpful discussion showing the rôle of geographical factors in the development of South Africa. Dixon (1928) has provided valuable summaries of the geographical and many other important factors that are instrumental in building a culture pattern. Dixon is not specifically concerned with Africa but with general principles that can be applied to African study. As an example of the detailed study of local conditions in relation to human life Hudson's (1935) survey of a district in Northern Rhodesia is recommended.

Among works of reference of an encyclopedic kind various handbooks are available. The "South and East African Year Book," with atlas (S. and G. G. Brown, 1935), also "Uganda" (Thomas and Scott, 1935), are typical source books available in preparation for regional research. Other thesaurian works of value in African research are Keane (1907), Gsell (1913), Krenkel (1925, 1928), and Haughton (1935). E. Torday's revision (1930) of Herbert Spencer's "*Descriptive Sociology of African Races*" contains a map with tribal locations designated by numbers, a key to which is provided. Roome (1925) has published a tribal map that will prove of service, though great improvement is necessary when further study has given tribal taxonomy a sure foundation on somatic, linguistic, and cultural grounds. We need some logical tribal grouping.

A large folding orographical map published by the National Geographic Magazine, Washington (1935), gives political divisions, railways, and motor roads. Sources of information respecting maps are the National Geographic Society, South Kensington, London; E. Stanford, 43 Whitehall, London; H. M. Stationery Office, Kingsway, London; the Royal Anthropological Institute; and the International Institute of African Languages and Cultures, London. Fitzgerald's compendium of African geography (1934) contains ninety maps, and the work is an indispensable companion for African study. Of these sources for cartography perhaps Stanford is the most valuable, since his catalogue contains lists and specimens of maps in great variety. Use also the Times Atlas.

With this equipment a beginning may be made in the study of climatic and biological conditions in relation to human development.

CLIMATE

CULTURAL CHANGES

Anthropologists are primarily concerned with African climatic zones as they exist today, and with the climatic changes that have affected human development since the beginning of the Pleistocene period; hypotheses relating to more ancient changes are only of theoretical interest (Skerl, p. 22). Geological and climatic changes have resulted in a discontinuous distribution of fossils and living animals. Lakes have dried up, and forests once continuous are now separated by hundreds of miles of parkland and semi-desert.

The principal geological events of the Pleistocene period, with which our study of human life begins, were the alternating advances and retreats of the polar ice sheets in the northern hemisphere, and there is the possibility that these Pleistocene glaciations were contemporaneous throughout the world. Present research seeks to correlate European glaciations with changes of humidity in Africa, and a scheme of synchrony between European glaciations and east African pluvial periods has been prepared (E. W. Smith, 1935, p. 16) from the data of E. J. Wayland (1934), Leakey (1935), and C. E. P. Brooks (1931).

As an illustrative study of the relationship between climate and man in south Africa an article by Smuts (1932) may be quoted as an example of the regional research which is only in its infancy. The author uses the events of the Pleistocene as a general framework for geological and climatic events both in Europe and south Africa. He points out that "we have now reached a stage in our south African archaeology when we may fairly use the Pleistocene as a working hypothesis, testing it with the geological and archaeological knowledge we have already gathered." Table I (Smuts, 1932, p. 101) enumerates Pleistocene periods and climates in Europe; then follows a description of European terminology from pre-Chellean through Mousterian and Aurignacian to Solutrean phases, thence to Magdalenian, Azilian, and Tardenoisian cultures. Table II, headed "European Pleistocene," gives a sequence of hypothetical dates with their associated climates, stone cultures, and types of fossil man, and a similar table (p. 108) is given for east African climates. Table VI makes chronological comparison between European Pleistocene glaciations, south African pluvial phases, and the occurrence of the lower, middle, and upper stone-age artifacts in south Africa.

Doubtless, geologists and archaeologists might find herein much for contention, and a student must accept the schemes as tentative.

The actual degree of accuracy in correlation is not the important point; we are concerned chiefly with a method whose extension to parts of Africa other than the north, east, and south may ultimately lead to a better understanding of the relationship between geological events, climatic change, and cultural sequences.

General Smuts emphasizes the logical connection between the sciences. Speaking of south Africa he says (p. 112), "Our inadequate geology is now impeding our further progress in archaeology," but he points out that the necessary advance is being made by C. van Riet Lowe, who is collating evidence of pluvial periods in the Pleistocene from study of the terraces of the Vaal River.

In connection with the subject of climatic changes, and their effects on human and animal life, L. S. B. Leakey's chapter entitled "Glimpses of Kenya's Past" (1936b) provides a non-technical introduction. For another area, the Sahara, Gautier (1928, Mayhew's translation, 1935, pp. 54, 60-61, 109) affords an excellent summary of geological and climatic changes with emphasis on the relation of these to human, plant, and animal life.

Gautier states (p. 61), "The facts which we have established then are these: that the Sahara appears to have been a desert during very remote and diverse geological eras. But in the Quaternary age, which was the geological period immediately preceding our own, a sharp change of climate in respect to humidity was experienced in the Sahara as well as in Europe and other parts of the world. During this period portions of the Sahara were furrowed by mighty rivers, and for the desert was temporarily substituted the steppe, thus opening to the tropical fauna a route to the Mediterranean." The Saharan rivers were not, however, powerful enough to reach the sea and to establish normal drainage. During the moist period the Atlas Mountains became the home of a residual fauna, some of which remained in existence even into our own historical times. The Carthaginian elephant was one of the last relics of this fauna, and the animal might have survived longer but for the depredations of Roman ivory hunters.

CLIMATE AND POPULATION

In studying human settlement in relation to humidity and temperature some figures collated by Westermann (1934, p. 303, quoting R. Uhden, 1931) deserve consideration, and these should be studied with reference to Fitzgerald's maps (Figs. 8, 9, pp. 34-35; Fig. 10, p. 41; and Fig. 14, p. 108), showing distribution of temperatures, rainfall, population, and types of vegetation.

Westermann states, "The present population of Africa according to recent census figures is about 130 millions, possibly less, making a density of four persons per square kilometer. In the steppe lands, most of which do not allow of agriculture but are fit only for cattle nomads, as, for example, in the region south of the Sahara, there is scarcely one person (in French Equatorial Africa 1.5) per square kilometer. Even in the forest district of the Congo where there is an abundant supply of rain the population reaches only 1-1.5 per square kilometer. The savannah lands show a relatively dense population. In northern Nigeria the density rises to almost 46. The greatest congestion is found in the oases of the Sahara and in a few favored places, as on the southern slopes of Kilimanjaro, where 125 persons live on one square kilometer. Kavirondo is also a densely populated country. The greatest density is reached in Egypt. The valley of the Nile has 400 persons per square kilometer, and the purely agricultural Egyptian province Menufie 684."

VEGETATION ZONES

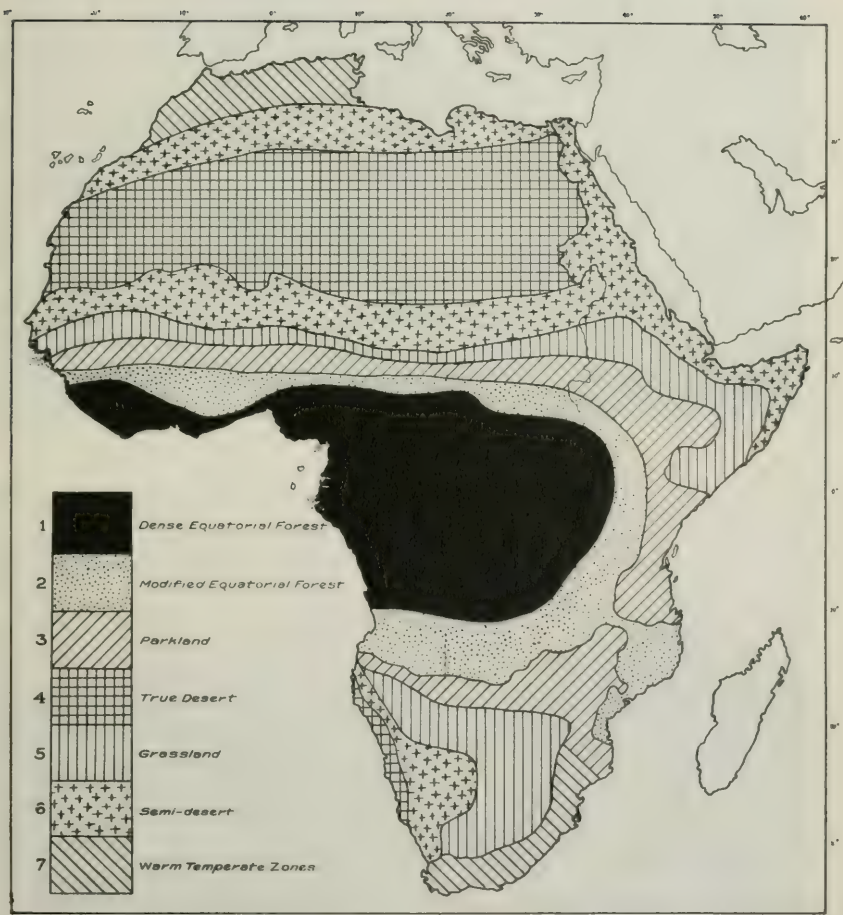
For our present purpose a simplified diagram (Map 2) will suffice to indicate the climatic zones that are of primary importance in the study of plant life and culture areas.

Zone 1 is equatorial forest, which occupies a broad belt north and south of the equator. A narrower, westerly continuation of this belt stretches along the coastal region, which comprises the political divisions of Cameroons, Nigeria, Dahomey, Ashanti, the Ivory Coast, Liberia, and Sierra Leone. This dense forest region is one of great humidity combined with a fairly high but constant temperature. Near Lagos, for example, the average temperature is about 80° with little variation either seasonally or by day and night. This is not an exceedingly high temperature, but owing to excess of moisture the heat is oppressive (Fig. 2, *b*). At Kano in northern Nigeria a dry heat of even 150° is not so enervating.

Zone 2 is modified equatorial forest. The rainfall is less and the vegetation is more sparse than in Zone 1.

Zone 3 is parkland having adequate moisture, scattered forest, and open plains with tall grass that gives shelter to herds of antelope. In the eastern parkland zone are the largest herds of big game, and many regions within the zone are suitable for raising cattle (Fig. 2, *a*, Fig. 3).

Zone 4 is true desert of stones or billowy sand interrupted by high plateau some of which is volcanic and attains a height of eight



MAP 2. Climatic and vegetation zones

Scale: 1 inch=1130 miles

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a



b

FIG. 2. Types of landscape. a. Parkland scenery near Sokoto, Nigeria, river bed in drought. b. Dense forest bordering a river, Cameroons.

thousand feet. The chief elevations are Air (Asben), Hoggar Mountains, and Tibesti. Fertile oases depending on permanent underground water occur at wide intervals. Rainfall is either non-existent, or heavy rains may occur locally at long intervals and for very short periods (Figs. 4, 5).

Zone 5 is a grassland area of moderately high temperature and seasonal rainfall, sometimes with droughts. The region is transitional from parkland to semi-desert.

Zone 6 is semi-desert with high temperature and scanty rainfall, somewhat uncertain in time and quantity. The chief vegetation is thorny scrub, euphorbias and areas of coarse grass (Figs. 6, 11, *a*).

Zone 7 is of a warm, temperate, Mediterranean type with local variations of heat and moisture due to differences in elevation.

Examination of Map 2 shows a repetition of climatic zones north and south of the equator. Modified forest and parkland, also grasslands, are to be found surrounding the dense equatorial forest. In the southwest is a strip of coastal desert and semi-desert, and warm temperate zones occur in the extreme northwest and southeast of the continent. The comparisons of temperature, rainfall, and vegetation in these zones, which have somewhat similar locations north and south of the equator, are only approximate.

Similar climates have not, however, imposed a uniformity of human modes of life. In the Kalahari Desert Bushman hunters have met conditions in their own itinerant way, but without any livestock. On the contrary, nomads of the corresponding semi-desert region north of the equator keep horses, cattle, and possibly camels. In the dry steppes of Kordofan, the whole organization is seasonally changed by splitting a tribe into small bands, each of which under its sheikh settles near a waterhole for the dry season.

RAINFALL

It is undesirable to give here statistics of rainfall, since these are readily available in the works of Fitzgerald (1934) and Knox (1911), but two extremes are portions of Cameroons, with an annual fall of 300 inches, and the region of Walfish Bay in the southwest, with an annual record of 0.3 inch, an almost negligible supply. The wet seasons are reversed north and south of the equator. Thus in Angola the dry season extends from April to the end of September, then in the period September to March rains come from the northwest. North of the equator, for instance, in Nigeria, heavy rainfall occurs between April and October, but following the final tornadoes of

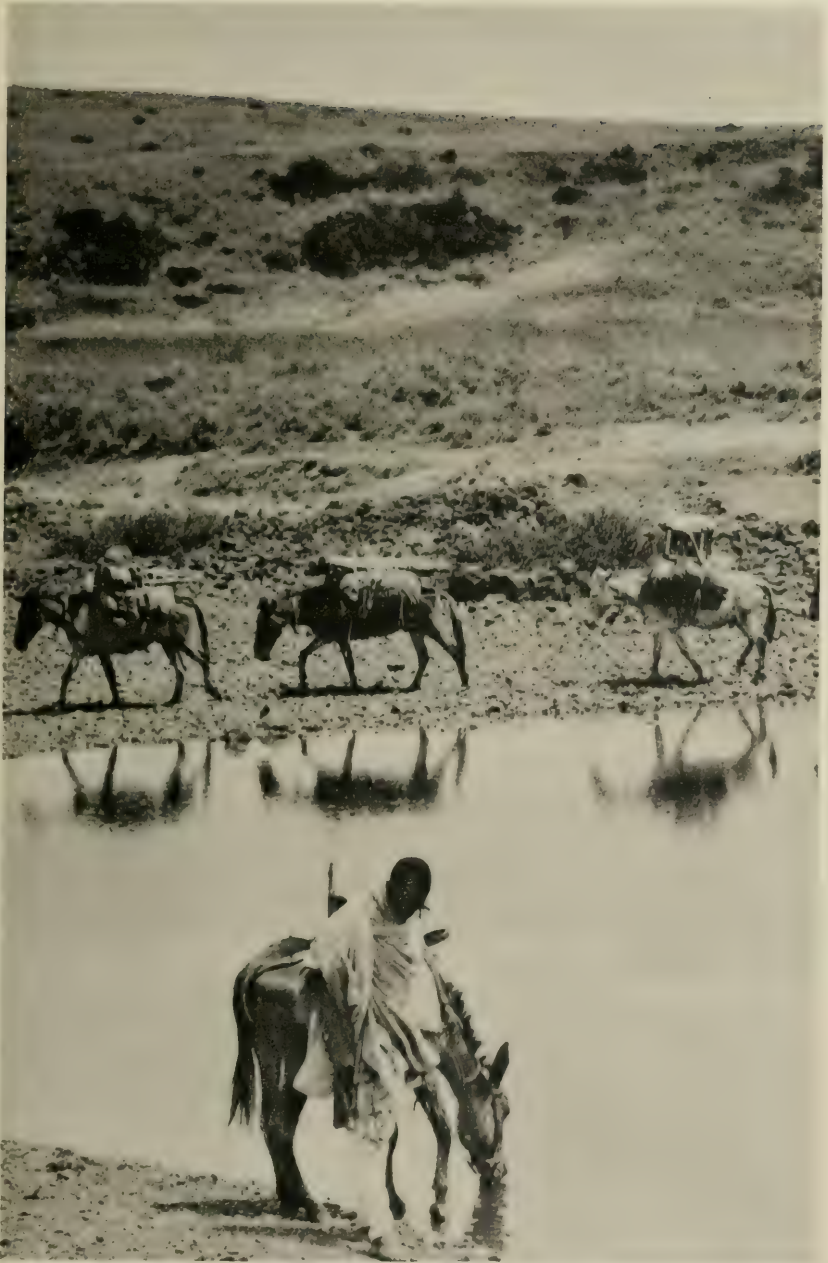


FIG. 3. Parkland scenery on high plateau, Abyssinia (from photograph by A. M. Bailey).



FIG. 4. Sandy Pliocene desert southwest of Dahshur Pyramids, Egypt (courtesy of Oriental Institute, University of Chicago).



FIG. 5. Gebel Rakhmaniyyah with Pliocene platform, Wadi Madamud, Egypt (courtesy of Oriental Institute, University of Chicago).

November the dry season sets in. In some areas of Africa the distribution of rainfall is more complicated than that described, for in addition to the two main seasons, wet and dry, periods of the "little rains" are important (F. Jung, 1932; W. Koops, 1935).

Since mountains and plateaus intercept moisture, rainfall depends on elevation. In Angola the wet winds originating in the northwest are bereft of moisture before they reach the coast; consequently, a strip of seaboard has in some years a fall that is scarcely measurable. The dryness of the Sahara Desert is due to deflection of moisture-laden winds whose direction is determined by the shape of the Gulf of Guinea. The forest region of the Guinea coast has a heavy fall, but by the time the winds have reached the southern Sahara they are dry.

In the far northwest of Africa westerly winds bring moisture to Algeria and Morocco, but the Atlas Mountains intercept the greater part of the downpour. Hence, the winds are dry when they reach the northern Sahara, and that area is screened from a supply of rain on both its southern and northern extremities. The Kalahari Desert in the southwest of the continent results from similar causes. Southeast trade winds bring a heavy fall of rain to Zone 7 at the coast, but after crossing the high country they reach the Kalahari as dry winds. These facts are of primary importance in studying section II, "Culture Areas."

INTRODUCED PLANTS

The history of each plant provides a theme for inquiry that leads into a wide field of literature, especially that relating to early voyages of discovery. If a plant is not indigenous to Africa, research tries to discover the first dependable date of introduction, the country of origin, and the point at which it was introduced into the new habitat. If botanical, linguistic, and historical research is successful, there is a possibility of tracing the routes along which the plant was dispersed, the agencies of dispersal, the reasons for acceptance or rejection, and the part played by the innovation in modifying cultures.

B. Laufer (1919) emphasizes a point of distinction between the introduction of a plant itself and the adoption of a custom associated with the plant. For example, indigo plants are indigenous to Africa, but the custom of making dye from them may have been introduced by Arabs who recognized the plants and knew how to utilize them. A similar argument applies to the henna plant and its use as a cosmetic. Cotton plants and gourds (*Cucurbita*) are of doubtful origin.



FIG. 6. Semi-desert with thorn bush, near Hawash, Abyssinia (from photograph by A. M. Bailey).

Castor-oil plants are possibly indigenous and coffee is a native of Africa. Probably Africa is indebted to Asia for the banana, jackfruit, coconut palm, date palm, fig, flax, millet, olives, sugar cane, and rice. But most recent research makes it doubtful whether rice cultivation began in China, India, or Africa (Nature, vol. 138, 1936, p. 1104, Editorial note). The evidence supporting such hypothesis is viewed in detail by A. de Candolle (1890) whose work remains a classic, and more recently by B. Laufer (1919) in "Sino-Iranica." Allдрidge (1901) has published a very useful and well-



FIG. 7. Baobab tree and semi-desert scenery (from painting by Field Museum Staff Artist, Charles A. Corwin).

illustrated book describing cultivated products and forest timbers, not from the historical but from a practical point of view.

Some of the most important food plants of Africa were introduced from America during the period of slave trade between the west coast of Africa, Brazil, and the West Indies. At present millions of Africans use as their staple crop maize, which was introduced into west Africa by Portuguese voyagers, probably early in the sixteenth century. This grain is grown in forest clearings, but it thrives best of all in upland regions where tropical heat is tempered by elevation. The plateau regions of central Angola provide ideal situations for

cultivation of maize in large quantities. The history of the introduction of maize and a note on the slow acceptance of the grain as a food for human beings is given by Hambly (1934a, p. 118) from unpublished notes supplied by the late Dr. Laufer.

From America came groundnuts (peanuts), *Arachis hypogaea*, which are now widely cultivated for food by Negro tribes and in some localities for export. The nuts were brought in slave ships to serve as food on the return voyage. In northern Nigeria during November the groundnut crop for export stimulates an extensive caravan trade near Kano. Another valuable contribution from America is manioc, a root crop, several species of which are cultivated in forest clearings over an enormous area in the forest and parkland.

The New World contributed sweet potatoes (*Ipomaea Batatas*), a tropical vine of Convolvulaceae. Yams (genus *Dioscorea*), of which *Dioscorea sativa* and *Dioscorea alata* are the most common varieties, are cultivated in Africa. Probably all the cultivated yams of Africa are of Old World origin. Beans (*Phaseolus vulgaris*), probably American in origin, are somewhat widely cultivated in open country such as that of central Angola. The papaya (*Carica Papaya*) and the guava, a shrub of the genus *Psidium*, have been introduced from America, but though appreciated by Europeans, the fruits of these trees cannot be said to form an important item of native diet.

The introduction of tobacco from America has had an important influence on African culture, trade, and social customs, with which the use of this narcotic has become associated (Laufer, Linton, Hambly, 1930). This leaflet summarizes historical evidence for introduction and diffusion of the commodity, and information is given respecting cultivation, preparation of smoker's tobacco and snuff, the associated habits, and types of apparatus used for smoking.

A few brief notes on plants of economic importance which are characteristic of Zones 1-7 may now be added.

ZONE 1

In Zone 1, the central equatorial region of great heat and moisture, the most important products are the palms and the banana. The wine palm, *Raphia vinifera*, sometimes called the bamboo palm, produces a sap that yields an intoxicating drink when fermented; from the base of the leaf a fiber named piassava is obtained. The oil palm, *Elaeis guineensis* (Fig. 8, b), the raffia palms (Fig. 10, a), and the coconut palm, *Cocos nucifera*, are all of great economic value.

In the forest zones of west Africa men mount the trunks of oil and wine palms by placing their feet flat against the trunk of the

tree and leaning backward on a fiber rope that supports the body. The climber advances upward by a series of jerks until he nears the head of the tree. He then uses his machete to cut slits to which small gourds are attached for collection of the sap, in case of the wine palm (Forde, 1937b, p. 43). From an oil palm he cuts off clusters of nuts (Fig. 10, b). Sarbah (1908, pp. 232-250) has given a useful account of the oil palm. The thick, reddish juice is a staple ingredient in vegetable stews, and large quantities of the oil are exported for making soap.

Coconut palms thrive in the east and west coastal, equatorial regions, and the dried kernels, known as copra, are exported for making soap and candles. In Sierra Leone the cores from clusters of oil palm nuts, when burned, yield potash for use in making soap (Alldridge, 1910, p. 336). From the leaves of the raffia palm many Negro tribes make fiber skirts, mats, and baskets. Raffia fibers are dyed and woven into colored patterns with simple looms. The raffia weaving of the Bushongo in the southwest Congo region and of some tribes of southern Nigeria is of great artistic merit.

The use of the banana (*Musa*) in the forest zone is well exemplified by Kollmann (1899, p. 12) who describes the place of this fruit in the domestic economy of the Waganda tribe. "He cooks the banana in large earthen pots covered by banana leaves. He roasts it at the fire; crushes meal from it; uses the fibres for all kinds of wicker work, and for tying up and fastening his work; the leaves serve him as table cloth; from the viscous sap of the trunk he prepares a kind of soap; and a valuable drink somewhat like lemonade, and greatly liked by Europeans, is obtained from the fruit." Not everywhere in the tropical zone does the banana function so importantly, but the account is typical of the way in which domestic economy focuses about one or more principal vegetable products.

Rice flourishes in hot moist regions, but it has a sporadic and not a general distribution in Africa. Rice is grown in Sierra Leone, along the upper Niger, near Lake Chad, in the Nile Delta, near the sources of the Congo and the Kasai, in Tanganyika, especially in a coastal strip south of Zanzibar, and over a large part of Madagascar.

Production of sugar cane in a strip on the west coast north and south of the equator, sporadically in the Nile Valley, in southeast Africa, and in northeast Madagascar is principally a European enterprise employing native labor.

The distribution of maize in Zone 1 is very wide, since the plant can be cultivated in forest clearings, although it grows better still



a



b

FIG. 8. a. North African oasis with date palms, *Phoenix dactylifera* (from painting by Field Museum Staff Artist, Charles A. Corwin). b. Oil palm, *Elaeis guineensis*.

in more open country bordering the denser forest. The grain thrives in fairly high plateau regions to an elevation of 4,000 feet. Generally the grain is grown by natives for their own consumption as a staple food and for brewing beer, but a large area in south Africa is devoted to production of maize for export. Fitzgerald (1934, Fig. 30, p. 192) shows the most intensive cultivation to lie north and south of Basutoland. Before 1820, maize (Indian corn), which is known in south Africa as mealies, was little known in Cape Colony and not until 1880 was its production of any consequence. Maize, though little used as food by Europeans in south Africa, is the staple of native diet, and in 1928 more than half a million tons was exported.

Manioc (cassava), *Manihot utilissima*, is very commonly used as food in the forest area and a broad periphery of that region. The Ovimbundu distinguish five varieties by name and have for each a specific method of cultivation and preparation for food (Hambly, 1934a, pp. 146-147). Yams and sweet potatoes, together with maize and manioc, are the four staples of a mid-section of Africa covering more than a third of the total area. They are all rich in starch, but in regions where the oil palm thrives the oil is added to crushed yams, so giving a mixed diet.

The wealth of timber in forests of Zone 1 is to a great extent unexploited but research goes forward at schools of forestry such as that established at Ibadan in Nigeria. Negro wood-carving in hard mahogany and ebony has attained maximum development in the Ivory Coast, Ashanti, Dahomey, Nigeria, Cameroons, and the southwest Congo. Study of trees, their properties, and the extent to which the timbers are utilized has been too frequently neglected by ethnologists. Hambly (1934a, pp. 138-140, 161) has given a list of Umbundu names for trees, together with notes on the economic values of the timbers to the Ovimbundu. Unwin (1920) and H. H. Johnston (1906) have prepared descriptions of west African forests and forestry; the former is technical, the latter pictorial and popular. A useful technical work on west African forestry has been compiled by J. Hutchinson and J. M. Dalziel (1931).

ZONES 2 AND 3

In Zone 2, which is a region of attenuated forest and parkland, and in Zone 3, which is a transition area from thin bush to semi-desert, several staple grains are produced. Here a student will encounter difficulties in nomenclature.

Some clarification of naming is given by Robbins and Ramaley (1933). "Sorghum is related to some of the common American



a



b

FIG. 9. *a*. Borassus palm, *Borassus flabellifer*. *b*. Dum palm, *Hyphaene thebaica*.

prairie grasses of the genus *Andropogon*, and indeed sorghum is sometimes considered as belonging to that genus, but at present it is more often designated as *Holcus Sorghum*. The plants require high temperatures and are sensitive to cold; they can resist drought since they have a low water requirement and are not readily injured by hot winds. The sorghums have relatively few diseases and insect enemies."

Durra is a sorghum widely cultivated in the eastern Sudan and northeast Africa under climatic conditions that give no rainfall from September to May. In west Africa durra is locally called Guinea corn, and in south and southeast Africa, Kafir corn.

"The term millet does not refer to a definite botanical group (species, genus, or tribe). Agriculturally speaking, the word 'millet' now embraces a number of annual cereal and forage grasses which have comparatively small seeds, abundant foliage, and fibrous root system. Most millets belong to the genera *Chaetochloa*, *Echinochloa*, *Panicum*, *Pennisetum*, and *Eleusine*. The water requirement of millets is less than that of the sorghums." (Robbins and Ramaley, 1933, pp. 90-92.)

Eleusine is a genus which is composed of grasses with many-flowered spikelets. *Eleusine coracana* is a valuable edible grain cultivated in India and east Africa. Sesame (simsim) is an East Indian herb; *Sesamum indicum* has flattish seeds which, owing to their oil content, have a nutritive value. K. Schumann (Editor, A. Engler, 1895, pp. 31-87) has given a section of his compendium to a description of maize, millets, eleusine, sorghums, and other nutritious grasses of east Africa, and a key to cultivated varieties of durra in this region is added.

In the western part of Zone 2, where the forest becomes more sparse, several trees are of great economic importance. *Borassus flabellifer* var. *aethiopum* (Fig. 9, a), a variety of the Palmyra palm of India, is known in Liberia as the fan palm. This palm has large round fan-shaped leaves which are used by the natives for thatching, for basketry, and as writing tablets. Sugar and wine are made from the sap. The fruits can be eaten either roasted or preserved, and when ripe they yield a yellow dye. The dum palm (doum, or dom), *Hyphaene thebaica* (Fig. 9, b), provides pliant straw for making mats, hats, baskets, and bags. These palms can thrive in somewhat arid areas of Zone 5.

The shea-butter tree, *Butyrospermum Parkii*, of the dry savanna lands, has a variety of uses. A solid white fat is obtained from the



a



b

FIG. 10. *a*. Raffia palm, Elende, Angola. *b*. Climbing a palm, Cameroons.

seeds, and this can be used either as food or as an illuminant. Meek (1925, vol. 1, p. 143) and M. Park (p. 203) have described shea-butter and the manufacture of soap from this fat. Another conspicuous tree of the dry zone and one which extends into semi-desert regions is the baobab (Fig. 7), *Adansonia digitata* (Verdoorn, 1933). According to Meek (1925, vol. 1, p. 146) the flour crushed from the fruit is used in making porridge known as *kunu*, and the leaves are a seasoning for soup. The Fulani frequently add baobab pod juice to their milk, and the bark fiber is used locally for door curtains, knapsacks, string, and ropes.

The name kola is applied to a large genus of African trees of the chocolate family (Sterculiaceae) having capsular fruits containing large seeds. *Cola acuminata*, often known as *Cola vera*, furnish most of the kola nuts of commerce. In west Africa the nuts are ceremonially handed at receptions. Their caffeine content gives them value as a stimulant.

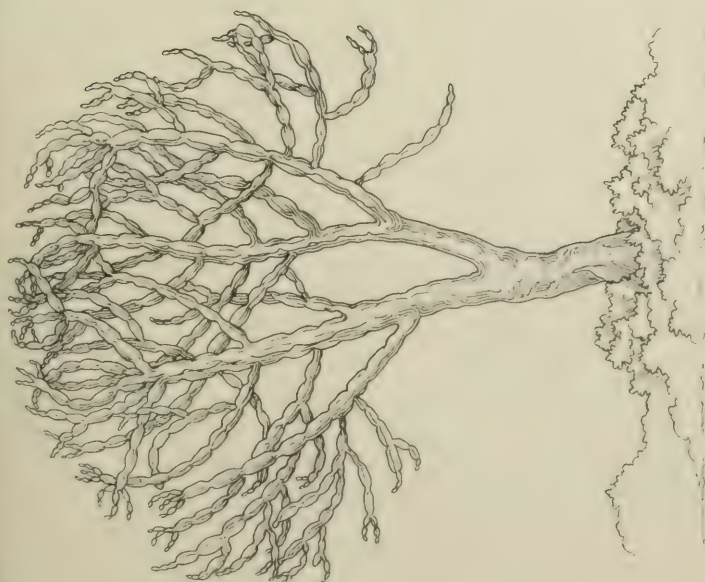
In the Nupe country of Nigeria, north of the denser forest zone, groves of kola trees are cultivated and nuts are produced for export. Further research would be of interest in collating information about the customs associated with the use of kola nuts. Thus, in establishing a blood brotherhood between two men a nut is divided, and each of the men eats that part of the nut which is smeared with the blood of his "brother."

The distribution of the indigo plant and its uses have been discussed by Laufer (1919, pp. 370-371, 585) and some notes on the subject of dyeing with indigo in west Africa have been collated by Hambly (1935a, pp. 415-417). Meek has described the routine of work on a present-day indigo farm (1925, vol. 1, p. 123).

In the dry regions throughout Zone 6 acacias yield various gums of commerce. Bartholomew (1912, p. 38) indicates on an economic map of Africa a distribution of gum-exuding trees in Mauretania and in the hinterland of Morocco and Algeria. The region of distribution extends across Africa in the dry Zone 6, bordering the southern Sahara and extending through Kordofan, to the east of the Nile and into Abyssinia. Throughout this long but narrow belt the gathering of gums, bringing them to local markets, and packing them for export are of great economic and social importance, since the industry determines native modes of life.

ZONE 4

In the oases of Zone 4, which is the true desert, and in the Nile Valley, date palms (*Phoenix dactylifera*) are of primary importance.



a



b

FIG. 11. a. *Euphorbia menelikii*, Abyssinian plateau, desert type of vegetation, 15 meters high (after F. Rosen, from G. Karsten and H. Schenck). b. Termite hill, Cameroons.

Dates are dried and carried as human food on long journeys, and as food for camels in the region of Kufra and other eastern oases. Notes on the cultivation of dates, their grades, domestic use, and preparation for export from Siwa have recently been given by Cline (1936a, p. 24). The account, which contains many important historical references, is an excellent example of the aggregation of social and economic traits about a single staple plant (Fig. 8, *a*).

Among wild produce of the true desert (Zone 4) and the arid region (Zone 6), the thorny acacias are of first-rate importance since they afford almost the only browsing for camels, and such browsing is essential for maintenance of health, even though the animals are fed with dates or with durra.

ZONE 7

In the temperate zones (Map 2, No. 7) cereals of the European type are grown. Wheat, barley, and oats are important crops in lands having climate of the Mediterranean type; so also are grapes, olives, figs, lemons, and peaches. The Kabyles of northwest Africa show great industry in terracing the hillsides and in carrying water from the valleys. Wheat is an ancient crop in the Nile Valley. The grain is important in Algeria and in the eastern Basuto highlands. Fitzgerald (1934, p. 261) remarks on the increase of wheat production in Kenya since the World War, yet transport to the coast is too costly to make export profitable. Rodd (1926, p. 131) gives a description of agriculture and irrigation at Auderas in Air, southern Sahara, where, in addition to date and dum palms, some wheat, millet, guinea corn, and vegetables are grown with much labor; wheat, however, is a luxury.

Bartholomew (1912, p. 52) shows a narrow barley zone along the length of the Mediterranean, in the Nile Valley, and at the extreme southern tip of the continent. There is also a barley-producing district marked on the middle course of the Niger and in the region of Lake Chad.

The natural resources of Africa have been briefly discussed by Melland (1932, pp. 111-132) who surveys transport, minerals, timber, grasses, mammals and fishes, soil, rivers, irrigation, water power, cattle, and future possibilities of development.

NEED FOR ETHNOBOTANY

So far as anthropological work is concerned research should be connected with the subject of plant ecology. From available data the detailed local distribution of essential food plants could not be

plotted, though Schimper (1898, 1903) has written an introductory treatise. Travelers and residents have failed to bring home or to send from Africa varieties of beans, millets, sorghums, manioc, groundnuts, and other flora, in quantities which will allow of plotting detailed topographical distributions, while analysis to determine food values is only in its infancy (E. B. Worthington and other contributors, 1936).

This does not mean that work of collation from ethnological researches would have no present value. Some notes on food plants and their domestic preparation and use are given in the majority of ethnological monographs. The Bulletin of Kew Royal Gardens, London, is important (for example, No. 1, 1937). Many valuable articles dealing with plant ecology in south Africa are to be found (SAJS, and Journ. S. Af. Botany). In the pages of *Mémoires de la Société des Sciences Naturelles du Maroc* botanical information for north Africa is given, and for this area Chevalier's work (1932) is serviceable. Norton's article (1923) describes plants of Bechuanaland and their uses to Africans. J. M. Dalziel (1916) published a Hausa botanical vocabulary. Shantz and Marbut (1923) have written on vegetation and soils of Africa. The pictorial survey of plant life by Karsten and Schenck (1904) is excellent. Much valuable material is to be found in the Bulletin du Muséum d'Histoire Naturelle, Paris, especially in articles by A. Chevalier. The Imperial Forestry Institute, Oxford, publishes lists of African flora. Putnam's "Economic Atlas" helps with the study of distribution, and Newland (1922) is a valuable source for information on plants of economic value in west Africa.

But, in relation to the size of the continent, the subjects of plant ecology and ethnobotany, with regard to both the latitudinal and the vertical distribution of plants, have not advanced beyond the pioneering stage. The type of research needed is one which secures the cooperation of ethnologists and ethnobotanists for the preparation of a compendium with topographical maps.

ANIMAL LIFE

Study of the fauna of Africa should be carried out in close conjunction with that of climate and plant life. The three taken together, and considered in relation to the ecological regions on Map 2, prepare the way for study of culture areas (section II). With regard to ecological study Bartholomew's "Atlas of Zoogeography" (1911) is of primary importance, since the work permits of a detailed

comparison between distribution of animals and such human occupations as hunting, fishing, herding cattle, and breeding camels.

Without attempting a complete survey, a summary of the principal forms of animal life will be made with a view to showing the importance of these in native economy, occupation, religion, and folklore. Beginning with Mammalia, to which most of the large domesticated animals belong, we pass to Aves, Pisces, Amphibia, Reptilia, and Orthoptera.

For purposes of scientific reference the Cambridge Natural History (Harmer and Shipley, Editors, 1895) will be of great general service. For popular reading and excellent photographs, G. T. Hutchinson (1922-24) will be found serviceable. Another work of general botanical and zoological importance is edited by Schouteden (1928), and issued periodically. P. A. Buxton (1925) has produced an informative regional study, "Animal Life in Deserts," and for biological study of the Sahara, of a non-technical kind, Buchanan (1926) will be found useful. I would advise, also, the reading of Carpenter (1925), who gives a regional survey of the natural history of east Africa. An excellent regional survey of the fauna of Liberia and parts of the Belgian Congo is given in a report of the Harvard Expedition (1926-27), for which Strong (1930) is the editor of numerous articles contributed by specialists. Sudan Notes and Records contains many contributions of zoological interest, and the Journal of the Uganda and East Africa Natural History Society is valuable for both ethnology and biology.

For giving a biological background which will lead to an intelligent understanding of African beliefs and customs and the association of these with animal life, the following works are of value: Selous (1895), one of the greatest of African hunters, Bland-Sutton (1911), Statham (1922), Roosevelt and Heller (1915), Akeley (1923), and de Ramecourt (1936).

MAMMALS

Among the fauna of Africa no animal has been of greater importance than the elephant. Ivory has been a source of wealth for native chiefs, who buried the tusks in their compounds and regarded the cache as a reserve which at any time could be converted into other forms of wealth. Ivory has also played an important rôle in African art and religion. European demand for ivory gave an impetus to exploration, the slave trade, and the desire to acquire African territory. Masudi, an Arab geographer (A.D. 983), states



FIG. 12. African water-hole, southern Abyssinia. Black rhinoceros, Grant's zebra, common eland on extreme left, Grant's gazelle (from group in Field Museum).

that Arabic ships brought ivory from Africa to Arabia, whence it was transported to India and China (Laufer, 1925).

The African elephant, which differs from the Indian genus in formation of the skull, shape of the teeth, and size of the ears, has a distribution from 10° north of the equator to 20° south of that line. The belief prevails that the African elephant, unlike his Indian relative, is untamable. This is untrue, for at Api in the northeast Belgian Congo domestication has been achieved. A wild herd is stampeded so that the calves may be roped. These are kindly treated, fed by hand, washed, and fanned with leaves. In six weeks the captives are so tame that they are allowed to accompany the domestic herd to pasture.

Finally, the elephants are harnessed to carts and made to draw heavy loads of timber. But this kind of transport does not justify the time and expense required for the capture and training. The Roman historian, Livy, gives an account of the use of elephants by the Carthaginian leader, Hannibal, about the year 217 B.C., and there is no doubt that the Carthaginians tamed the African elephant. Blunt (1933) has collated useful information pertaining to African elephants, their distribution, and the past and future of the ivory trade. Other authorities on the African elephant are Marius Maxwell (1924) and Marcuswell Maxwell (1930).

The history of the camel in Africa has been a debatable subject. Bones of camels found in the Pleistocene strata show that these animals were part of the ancient fauna of Africa at the time of early stone-age man, but proofs of the use of camels even in the early historical periods of Egypt are lacking. The camel was known in Egypt possibly as early as 3500 B.C., for an earthen figure of this animal has been found in a predynastic grave at Abydos. But the camel does not play any part in Egyptian mythology; neither have Egyptians left drawings of camels, though Egyptian murals give numerous representations of cattle, horses, and donkeys (Erman, 1894, p. 493; Caton-Thompson, 1934, No. 24; Flamand, 1906).

Gautier (Mayhew's translation, p. 124) states that the camel was first imported into Egypt during the Persian conquest of 525 B.C., but for several centuries the camel did not make its way westward. Archaeological evidence occurs in the form of Saharan petroglyphs, whose grouping, according to Monod (1932), shows pre-cameline and cameline cultures of the Sahara in the central region of Adrar Ahnet.

Rodd (1936, pp. 206-208) describes the nomadic and sedentary life of the Tuareg of the present day, and shows how both modes of

life are dependent on the rearing of camels. He reviews the historical testimony of Roman writers who described north Africa, and he arrives at the conclusion that the camel was not used for transport in Africa until the Arabian camel was so employed about the second century of the Christian era (see also A. E. Robinson, 1936).

The camel is used as a draft animal and a beast of burden in some of the dry regions of southwest Africa, but introduction of the animal into that area is an instance of modern European enterprise, and as such is unimportant compared with the typical camel cultures of the Sahara.

The use of horses in Africa (Figs. 70, 75) is of importance, since the breeding of horses, the manufacture of their accouterments, and employment of them in warfare, have affected Negro culture through Arab influence. Horses were known in Egypt in Dynasty XII, about the year 2466 B.C., but the animals were not bred there until several centuries later; by that time the Egyptians had learned the use of horse-drawn chariots in warfare. In Dynasty XXII horses were plentiful in Egypt, and in I Kings 2: 28, there is the statement that King Solomon had horses brought from Egypt; this would be about the year 966 B.C. In Egyptian warfare horses were harnessed in pairs for drawing chariots, but there is no evidence that they were used for riding (Erman, 1894, pp. 490-493). Hannibal used horses for his cavalry, and he took Numidian horsemen from north Africa to Italy for his campaign against the Romans. These historical facts show that horses were part of a north African culture more than four thousand years ago, and from that time onward there has been dispersal with introduction of new breeds intermittently.

Horses are used chiefly in the region of north Africa between the desert and the forest; namely, the semi-desert and parkland country which extends across the continent. Although dryness is a general characteristic of this region, and droughts may be prolonged, wells are sufficiently numerous to enable horses to make the journey. An African warrior named Rabeh (Von Oppenheim, 1902) crossed this territory with thousands of horsemen about the year 1895. He harried the country around Lake Chad, until he was defeated and killed by the French in the year 1900.

A remarkable journey made by horses was that of Mansur's troops, who marched from Morocco across the western Sahara about four centuries ago. His objective was the Songhai empire in the northern bend of the River Niger, and his success was due to the feeling of security of his enemies, who never anticipated a column

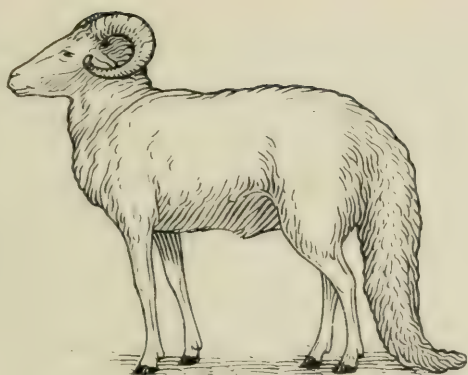
from the direction of the desert. Thousands of camels were used for transport of water supplies, and the attacking force was divided so that not too great a demand was made on the wells of one route (Bovill, 1926).

Up to the year A.D. 1900 horses were commonly used in the campaigns of northern Nigeria, where each of the rulers had a large body of troops. British conquest ended this internal strife in the year 1903, when the Fulani and Hausa were subdued, but there yet remain troops of horse which are ceremonially used by native chiefs. Fig. 75, *b* shows a horseman of the bodyguard of the Emir of Fika. The rider is clad in a coat of mail and a metal helmet. Fig. 75, *a* illustrates the equine accouterments used in Abyssinia.

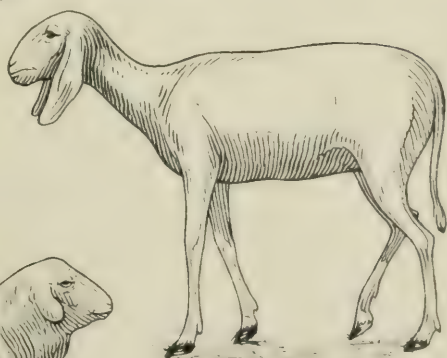
Horses quickly contract disease from the bite of the tsetse fly; therefore, their distribution is limited by the occurrence of this pest. Horses are bred near Sokoto in northwest Nigeria, and in Bornu in the northeast of the country. In every marketplace blacksmiths and leather workers produce iron bits, hobbles, stirrups, saddles, bridles, and ornamental saddle-covers.

The most handsome cattle are the long-horned animals of Bornu in Nigeria (Fig. 89) and Damaraland in southwest Africa, and later it will be possible to show that many tribes of east Africa are so organized that every aspect of their lives is closely related to their herds. These are tribes of a true cattle culture (section II, chap. III). Other divisions of cattle breeders have to be considered; namely, nomad tribes of Kordofan, and the Fulani of west Africa, whose cattle are used for transport. In addition to these functions of cattle, there are important instances of the use of riding oxen by Europeans. Lindblom (1931) has mapped the distribution of this practice. Dutch farmers of south Africa use ox-carts, and this kind of transport may also be seen in Angola. In Angola and elsewhere a European may be seen riding an ox which is guided by reins attached to a brass rod passed through the septum of the animal's nose. A saddle is provided, and to this are attached broad, brass stirrups (Fig. 68, *b*). The rate of travel is about three miles an hour, the same pace as that of a baggage camel. In Egypt and north Africa oxen are used for turning wheels which pump water for irrigation.

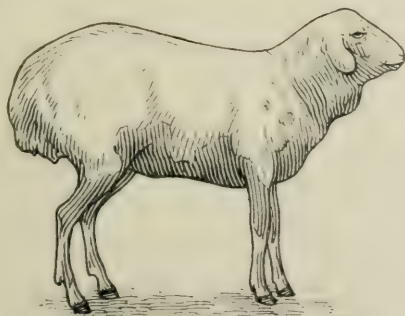
The historical arguments relating to breeds of cattle in Egypt have been summarized by Erman (1894, p. 443). He points out that in addition to the old long-horned race there appears to have been an introduction of the short-horned humped variety about the period of the New Empire. Recent discussions of the historical aspects of



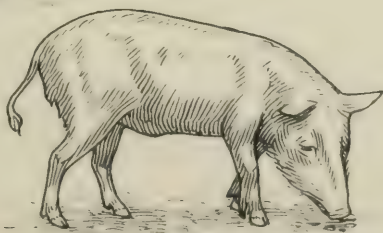
a



b



c



d

FIG. 13. Domestic animals. *a*. Fat-tailed sheep. *b*. Long-eared Syrian goat. *c*. Fat-rumped sheep. *d*. Keltic breed of long-snouted pig.

domestication of animals in Africa have been offered by Kroll (1928, pp. 177-290), and Hilzheimer (1930, pp. 472-483). Crossing of principal breeds has occurred, and Meek (1925, vol. 1, p. 118) distinguishes five main types of cattle in Nigeria. H. H. Curson (1935, 1936) has described some parent breeds of African cattle.

Donkeys, overloaded and distressed with sores, are used in Egypt, where the ass was a beast of burden more than five thousand years ago. From the north coast of Africa to within a few degrees of the equator donkeys are used for transport. In some parts of the eastern Sudan and Abyssinia are wild asses that introduce new blood into the diminutive stock owned by natives. The female asses are left at night in places where they are visited by wild asses. The donkey, like the ox, is used for purposes other than transport. In the Atlas region of Algeria and Morocco may sometimes be seen a primitive plow to which are harnessed a woman and a donkey, for among the Kabyles women perform all the heavy agricultural work.

Pigs are widely kept except by Mohammedan tribes. A slim, long-snouted pig is described by Europeans as a Keltic breed, and, in addition to this, strains of every European variety of pig may be seen. Sheep of Syrian origin, and also goats, are widely dispersed. Hutchinson (1922-24, vol. 1, pp. 469-470) pictures breeds of sheep domesticated in Africa. The Egyptians had a domestic sheep at a remote period, while other breeds have been introduced by way of the Sinai peninsula at unknown periods (Fig. 13).

Although the history of domestic animals is difficult to unravel, several truths can be accepted. The African buffalo has never been domesticated; therefore the breeds of cattle now found in Africa are not the descendants of African buffaloes. Domesticated pigs are not descended from wild pigs of African forests, since these animals have not been domesticated in any part of the continent. Domestic dogs which are present in all villages are not bred from wild dogs. These hunt in packs and in appearance they bear some resemblance to hyenas. Cats were domesticated, worshipped, and mummified locally in ancient Egypt, but they are not commonly found in African villages today. Instances of the domestication of feral cats by African natives, and the distribution of domesticated cats among Bantu Negroes are subjects discussed by H. Kroll (1928, p. 183). Hahn (1896) published an early standard work on the domestication of animals, containing many references to African animals.

Chief among wild animals which are of importance to African hunters are antelopes of many species. These abound in the park-

land region which surrounds the central forest zone. In the grassland, too, and even in semi-desert the grass is high enough to shelter herds of antelope, while gazelle may be seen in true desert country where expanses of waterless desert are broken by rocky hills. In Africa the only deer (Cervidae) are *Cervus elaphus barbarus* and *Cervus dama*, in the extreme north. The antelope (Bovidae) should not be described as deer since anatomical differences exist.

Deer shed their horns, but this is not characteristic of antelopes. The largest African antelopes are the eland (Fig. 12, extreme left) and the roan, while the smallest is the dik-dik, only twelve inches high at the shoulders, with a body no larger than that of a rabbit.

The giraffe (Laufer, 1928), rhinoceros, hippopotamus, zebra, and okapi have all been important in hunting communities, and with the exception of the okapi and the hippopotamus, all find their natural habitat in the open country on the fringe of denser forests, especially in Kenya and Tanganyika Territory. The white rhinoceros, which has really little claim to the name "white," occurs with very local distribution in the Upper Nile region and in south Africa. The pygmy hippopotamus is found only in Liberia.

The gradual spread of civilization, together with the depredations of hunters, both European and African, has restricted the range of many animals (Hobley, 1929-30). In a later chapter dealing with archaeology it will be possible to show that rock engravings of giraffe, ostriches, and other animals indicate their former presence in regions where they have not been seen within the memory of living people. In addition to rock engravings and pictographs in colors, the evidence of past distribution is based on osteological discoveries, and the observation of Egyptians, Greeks, and Romans. From the ethnological point of view the migration of animals is important, for when such movements occur, possibly as a result of changing climate, the activities and migrations of human beings are also affected.

The okapi, a name given by the Bambuti Pygmies of the Ituri Forest in the northeast Belgian Congo, has special claims to interest. Pygmy hunters showed the skin of an okapi to the German explorer W. Junker, in 1878, though Junker did not see a living okapi, and the animal was at that time unknown to zoologists. The okapi, an entire skin of which was sent to England in 1901 by Sir H. H. Johnston, is a member of the giraffe family. Affinity with giraffes is shown by the structure of the skull and teeth. Some Pygmy tribes hunt this animal, whose skin is valued for making belts which are worn by men only.

The hyrax (Fig. 14), also known as the coney and rock rabbit, appears to belong to the order of rodents, but the outward form is deceptive. Examination proves that the hyrax belongs to the order of ungulates or hoofed animals which we have been considering. The creature is so exceptional as to require a zoological division of its own, namely, the Hyracoidea. Zulu tribes of southeast Africa are exceptionally skilled in sewing together skins of hyrax to make



FIG. 14. Hyrax, Abyssinia. Scale about 1:20 (from group in Field Museum).

long fur cloaks called *karosses*. Leakey (1936b, pp. 36-39) gives informative notes on the habits of this animal.

Chief among the carnivorous animals are lions, leopards, hyenas (Fig. 16, *a*, *b*), wild dogs, foxes, and jackals. Bears have been seen rarely and only in the extreme northwest, where the fauna approximates that of Europe. Most of the carnivorous animals play a part in native stories, hunting, and beliefs of a sacred kind. Lions and leopards are sometimes the sacred emblems of chiefs, and in describing Negro religion, beliefs in the reincarnation of human souls in these animals will be described. Some medicine-men assert that they are able to send their souls into leopards or hyenas, so temporarily controlling the creatures. Or the belief may be maintained that

a man can turn himself into an animal, or that he may by magical means inflict this metamorphosis on an enemy. A leopard has been the symbolic animal of the most important secret society of west Africa. Members of the society dressed themselves in leopard skins and armed themselves with claws. So equipped they slew a victim and ceremonial cannibalism followed.

The ingenuity of Bushman and Pygmy hunters, and the ritual that accompanies hunting among Negroes make the study of animal

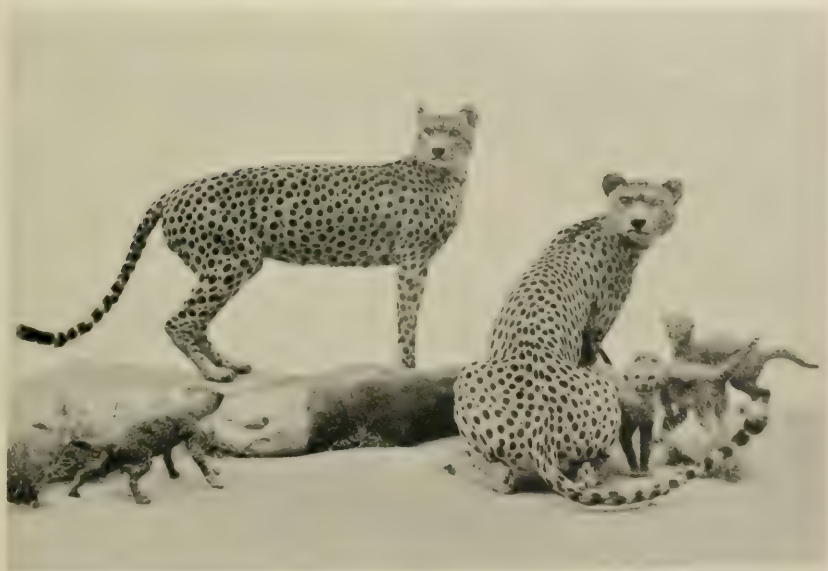


FIG. 15. African cheetahs. Scale about 1:36 (from group in Field Museum).

life of deep interest. The fauna of Africa has affected art and handicrafts by providing motifs for wood-carvers, metal workers, and rock sculptors. When considering ideas of a totemic kind the importance of animal emblems will be observed. These zoomorphic symbols have a religious and a social significance; therefore, a mystical relationship exists between a totem animal and the members of the clan, or between a person and his individual totem (chap. III).

In some parts of Somaliland and Abyssinia cheetahs (Fig. 15), which are similar to leopards in appearance, are used for hunting, just as they are in parts of northern India and Persia. A hooded cheetah is taken to the chase, and when in sight of a gazelle the hood

is removed. This form of hunting is not common in Africa and the region of occurrence suggests diffusion from Asia.

The civet, which is closely related to the mongoose (Fig. 17), has a restricted commercial use. It is sometimes kept in captivity and made to discharge from its caudal glands a musk-flavored substance used in manufacturing a perfume (Meek, 1925, vol. 1, p. 149).

Among carnivorous animals should be mentioned the striped, the spotted, and the brown hyenas, which are typically nocturnal scavengers that feed on the kill of other carnivores. But hyenas at times enter camp and steal living animals. The jaws and shoulders are extremely powerful, yet the hind quarters slope with a suggestion of weakness in comparison with the fore quarters (Fig. 16).

Gnawing animals (rodents) are numerous in Africa. The order includes large forest rats, small rats and mice of many species, ground squirrels and tree squirrels, the jerboa (in desert regions), the porcupine, and the hare. The last-named is a great favorite in Negro folklore because of his cunning, which is directed toward deceiving the larger and stronger animals. The jerboa is common in Egypt and the Sahara, where it is easily recognized by its method of hopping on its long hind legs in kangaroo fashion. Porcupines are widely distributed south of the Sahara; the Ovimbundu use the quills of these creatures for making a special head ornament for medicine-men.

Among the insectivores, moles and shrews are of common occurrence; the former range over almost the whole of Africa south of the equator. The bats (Chiroptera) are distributed over the whole of Africa, and there are also flying foxes with a more limited distribution just north and south of the equator. The true vampire, which is a blood-sucking bat, is limited to South America. Allen, Lang, and Chapin (1917) have written a monograph on African bats with a section on native beliefs and customs connected with these creatures (pp. 493-494).

Creatures belonging to the Edentata or toothless animals are the aardvark and the pangolin (Fig. 18, *a*, *b*). The former, whose name is a Dutch word meaning earth pig, is found in no part of the world except Africa, where it is fairly common in the east, south, and southwest. The body of the aardvark is about five feet in length, the ears are long, and the hide is scantily covered with hair. With strong claws the aardvark digs in the sides of termite hills, and licks up the ants with a whiplike tongue that shoots out from a tubular



a



b

FIG. 16. African hyenas. *a*. Spotted. *b*. Striped. Scale about 1:24 (from groups in Field Museum).

mouth. Recent research indicates that resemblances of the aardvark to the anteaters and pangolins are superficial. The aardvark is now separately classified as *Tubulidentata*.

The pangolin, *Smutsia temminckii*, which is sometimes called the scaly anteater or manis, is somewhat similar in appearance to the armadillo of South America. The points of comparison are the long tapering snout, the armored covering, and the strong claws used for digging in termite hills. The scaly covering of the pangolin is, however, distinctly different in structure from that of the armadillo. The pangolin has a wide geographical range in Africa, from 10° N. Lat. almost to the southern extremity of the continent.

AMPHIBIANS AND REPTILES

Frogs and toads are numerous among the amphibians. The most important reptiles are crocodiles and pythons. The African crocodile is regarded by some tribes as a sacred reptile, and today at Ibadan in southern Nigeria a sacred white crocodile is kept in the custody of a priest (Fig. 83, *b*). In former days food offerings, including human sacrifices, were made to white crocodiles. The whiteness is genuine albinism which occurs in reptiles, though somewhat rarely. Useful works of reference are Ditmars' "Reptiles of the World" (1910), and reprint (1936).

Pythons have a general distribution everywhere in Africa south of the Sahara, and although they thrive in a moist habitat and swim freely, they are equally adaptable to open and fairly dry country. There are several species, of which *Python sebae*, the largest (Fig. 83, *a*) may attain a length of twenty-five feet. The vertebrae are supposed by several tribes to be a cure for rheumatism. A village chief in Angola presented me with a necklace of these bones, which he declared to be a certain cure. The fat of the python is thought by some tribes to have curative properties, and sometimes the gall bladder is used for magical practices. The section dealing with African religions shows how important the python has been in a system of python worship which was carried on in Uganda, and in west Africa at several centers (Hambly, 1929a, 1931a). The constrictor snakes of Africa must, by zoological classification, be called pythons. Those constrictor snakes designated as boas have their habitat chiefly in South America, and there is a species in Madagascar.

The spitting cobra is not a figment of the traveler's imagination. These spitting snakes are widely distributed in Africa, and they do,



FIG. 17. Mongoose, southwest Africa. Scale about 1:3 (from specimen in Field Museum).



a



b

FIG. 18. *a*. Aardvark. Scale about 1:15. *b*. Pangolin. Scale about 1:8 (from specimens in Field Museum).

as often reported, rear themselves to squirt their venom at human beings. Many authentic records attest the effect of the poison, which causes severe ocular inflammation. African tales of fire-spitting serpents may be founded on this fact. There is also good zoological ground for folklore stories of double-headed snakes. Some snakes taper at both ends, and in addition to this peculiarity they have a habit of raising the hinder part when approached; therefore, casual observation suggests the presence of two heads. Serviceable works of reference are Ditmars (1932), K. P. Schmidt (1923), and Loveridge (1936). The last-named gives a list of African reptiles and amphibians in the collections of Field Museum of Natural History.

Tortoises are numerous in Africa, and there is no creature so well described in folklore tales. The tortoise is generally represented

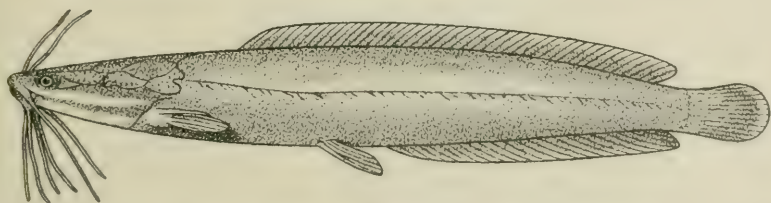


FIG. 19. Catfish, *Clarias senegalensis*. Scale about 1:3.

as using great cunning to outwit the larger and faster animals. In the market of Ibadan, Nigeria, large tortoises are sold as food, and snakes are eaten by many Negro tribes.

FISHES

In African rivers and lakes live many species of edible fish whose capture by nets, weirs, spearing, poisoning, drag-baskets, and lines provides an extensive study relating to the economics of food supply. Beliefs in the sacredness of catfish survive in Liberia and Nigeria. At Ifé in the latter territory I was taken to a pool of sacred catfish (Fig. 19). At first no movement could be seen; then, as my guide agitated the water and threw in a little meal, the pond became alive with catfish, some of considerable size. Because of its sacred character the catfish was often a design on bronze plaques made in ancient Benin, where religion and art were closely connected. Boulenger (1909-16) has a standard work on the fishes of Africa.

BIRDS

Birds are too plentiful and widely distributed to discuss in detail. To the Egyptians the ibis was a sacred bird which was mummified and buried; there was also the sacred hawk of Horus, and at present many religious beliefs center in bird life. I found among the Ovimbundu that three birds were revered. Esuvi is a bird with power to catch spirits of the dead, so making them die a second death. It flies by night. Other sacred birds of the Ovimbundu are one onduva, the plantain-eater, *Turacus livingstonii*, whose feathers are used by kings and medicine-men, and another onjimbi, an owl, *Bubo maculosus*, whose cry is a premonition of death.

The bird life of Africa includes vultures, which are protected by law because they are efficient scavengers. In some villages they may be seen associating themselves with poultry and remaining near human habitations. Among common birds are hornbills of great size, kingfishers, parrots, nightjars, egrets, hawks, eagles, flamingoes, and weaver-birds (Fig. 20). The secretary bird, somewhat larger than a stork, plays a useful part in devouring snakes.

Of all birds, perhaps the ostrich has been the most important in the economics of African hunters, and the bird has been domesticated in south Africa, where ostrich farming for the sake of the plumes is a notable industry. Laufer (1926) has discussed the importance of the ostrich in ancient and modern times. Bushmen of the Kalahari Desert use the eggshells as receptacles for water (Fig. 63) either in transport or for storing in a cache. Eggs and ostriches are a valuable source of food supply, while the shells are made into disk-shaped beads that are highly valued as personal ornaments and trade objects by Bushman tribes.

In ancient times engraving ostrich eggshells was a form of art in Egypt and north Africa, and this practice the Bushmen still follow, though the engravings are of an elementary geometrical kind. In many Negro tribes collecting eggs is part of the routine work of women and children, and feathers for decorative head-dresses are valued by some tribes, for example, the Suk and the Masai (Fig. 39), who use ostrich feathers. But feathers of small birds are sometimes equally important for decoration and as sacred emblems. The pink tail feathers of the African parrot, *Psittacus erithacus*, are sold in Nigerian markets.

Poultry is important over the whole continent, though the breeds, except where crossed with European importations, are diminutive. The future offers great opportunity for improving the weight of the

birds and increasing their egg production. Domestication of the Guinea fowl has formed the subject of a brief article by D. Newbold (1926). European ducks may be seen in many parts of west Africa. For reference a student has several standard works. Reichenow (1900-1901) has produced several volumes on the birds of Africa,



FIG. 20. African weaver-birds and nest. Scale about 1:6 (from specimens in Field Museum).

and one of the volumes is an atlas of distributions. Stark (1900) has described the birds of south Africa, and Ramsay (1923) has provided a "Guide to the Birds of Europe and North Africa." Bannerman's volumes (1930) describe birds of tropical west Africa. Other authorities are Meinertzhagen (1930) for Egypt; Belcher (1930) for Nyasaland; Priest (1933) for Southern Rhodesia; and Chapin (1932) for the Belgian Congo.

LOCUSTS, FLIES, etc.

The locust is the most destructive of the Orthoptera, to which order crickets, grasshoppers, and the praying mantis belong. The mantis is important in the folklore and religious beliefs of Bushmen and Hottentots. At present there is no effective means of suppressing the swarms of locusts which appear periodically in almost all parts of Africa. Digging ditches to trap the creatures during the crawling stage of their existence, inoculation with disease, and the use of sodium arsenite fumes (Illustrated London News, 1934, p. 561) have all been tried as remedies, but with only a measure of success. H. B. Johnstone (1924, pp. 91-101) has described the structure and habits of the family Acridiidae, to which most of the destructive locusts belong. He mentions various species and their phylogenetic relationships. From the egg stage the "hoppers" pass through several skin-castings before attaining the mature winged condition. The occurrence of solitary and swarming phases for many species of locusts has now been definitely established. Locusts are an article of diet in regions as far apart as Morocco, Angola, and the Kalahari Desert. They are roasted and eaten at once, or preserved in fat and salt.

The small animal life of Africa is most important of all, because these are pestiferous forms that determine the welfare of human beings and animals. The most detested of these pests used to be the mosquito *Stegomyia fasciata* (formerly *Aedes aegypti*), because it is the carrier of yellow fever, which still breaks out periodically along the coast from Sierra Leone to Cameroons. The female *Anopheles* mosquito carries the germs of malaria fever, which may attack mildly or fatally. Africans are by no means immune from malaria, and repeated attacks are serious because of the lowered resistance they induce. Almost as deadly are the tsetse flies, *Glossinia palpalis* and *Glossinia morsitans*, which are carriers of trypanosomes of sleeping sickness. These pests have an important influence on the distribution of human settlements and the keeping of cattle. The jigger, a word derived from the West Indian chigoe, is a flea, which was introduced into Africa from South America. It bores under the toe nails, where the egg sac sets up a severe inflammation. Failure to remove the sacs leads to pedal deformity and loss of toes. There are many species of parasitic worms that breed in water and spend part of their life cycle in the bodies of human beings or animals. Some of these worms affect the lymph system, so causing elephantiasis, while other forms attack the bladder and intestines.

Imm's "General Textbook of Entomology" (1924) is perhaps the most useful compendium for reference. For understanding the nature of tropical diseases and their menace to native and European welfare, Strong (1930) should be consulted. The volumes edited by R. P. Strong are reports of the Harvard expedition to Liberia and the Belgian Congo (1926-27), and perusal of the notes on malarial and yellow fevers, filariasis, yaws, syphilis, leprosy, and sleeping sickness will prepare the way for understanding of problems of native welfare and European survival (section IV).

Simpson (1912, p. 353) brings out clearly the way in which trypanosomiasis in horses and cattle affects human endeavor and the distribution of cultures. Near Lokoja 60 per cent of the horses brought into the town develop this disease within a year, and of these 50 per cent die of the disease within the same period.

In conclusion of a brief study of animals in relation to man, one more instance, and this an example from entomology, may be quoted. Dicke (1932, pp. 792-796) has discussed the influence of the tsetse fly on the history of south Africa. He advances the hypothesis that the central movement of Bantu migration into south Africa was checked by the tsetse-fly belt which stretched across the northern Transvaal, and the territories north of it. In addition to the probable effect of tsetse-fly belts in native migration and cattle-keeping, the fly has influenced the course of European history by determining the direction of roads and railways. In 1847 the Boers defeated Umsilikatsi in Southern Rhodesia, and in 1851 they were victorious over Sechele in Bechuanaland, yet they took no advantage of the situation, because the tsetse fly prevented immediate occupation of territory. But, by the time the fly-infested areas had diminished and passages had opened through these Boer territories, British influence had secured a footing in Bechuanaland and Southern Rhodesia, so checking Dutch expansion.

II. HISTORY

KINDS OF EVIDENCE

The data available for study of African history and prehistory fall into two main divisions: (1) Direct evidence afforded by datable writings; (2) indirect evidence, or inferential testimony.

Direct evidence is available for Egypt from 4000 B.C. onward through the early dynasties, the Middle Empire and the New Empire, through Persian, Greek, Roman, and Arab occupations. Datable evidence can be given for the activities of Carthaginians from about 900 B.C. and a chronology of Arab incursions from A.D. 700 onward is fairly reliable. This is written documentary evidence, the oldest form of which is Egyptian papyri of hieroglyphs, thence through the demotic and hieratic forms to Coptic. Latin and Greek histories, Punic inscriptions, and a large body of Arabic texts form the remainder of the direct evidence up to the fifteenth century, at which time European exploration began with voyages of the Portuguese.

These documents taken collectively furnish a foundation of fact, but the period they cover is short in relation to the prehistory of man in Africa, and inquiry is soon forced backward into an undocumented period of indirect evidence that accumulated before 4000 B.C.

Indirect evidence includes the following studies: Valuable among the data available for prehistoric research are those of archaeology. Working in conjunction with geologists, archaeologists study stone implements, rock carvings, paintings in caves and on exposed rocks, stone monuments, and the remains of human habitations.

The physique of African races has been studied to a limited extent by anthropometric methods. Human skeletal material, especially that which is deeply buried, undisturbed, and ancient, has been examined for evidence concerning early types of man. This paleontological evidence is so far very meager.

African languages are now demanding a thorough scientific study with special reference to their structure and interrelationship, and the fact is encouraging that, despite the absence of written languages for the bulk of the population, traditions of historical events have been orally transmitted from one generation to another. Old people are often valuable informants, while mythology and folklore preserve records of historical events and exalted individuals who appear as culture heroes. At the courts of Negro kings are to be found officials

whose principal duty is to memorize tribal history and genealogical tables.

The outline of African languages demands a separate chapter, while the distribution of different modes of life and the study of somatic traits also need individual consideration. Therefore, the present chapter is restricted to a review of the facts of datable history, and of prehistory examined in the light of archaeological investigation.

Splitting a problem into component parts does not mean that the sections are not logically connected. On the contrary, the data that are classified under different headings are actually unified; the subjects merely represent different angles from which historical problems can be reviewed, and the synthesis will be made later when sufficient data have been accumulated. In this chapter examination of historical and prehistorical evidence proceeds from datable events to the less clearly interpreted facts of archaeology.

DATABLE EVENTS

EGYPT AND ASIA

There is no part of the world whose ancient history has been more thoroughly studied than that of the Nile Valley. The results of concentration on archaeological and historical research in Egypt during a century at least are particularly helpful, since Egypt is connected with Asia, which was the original home of some present-day African people, languages, and customs. The history of Egypt from the earliest times to 500 B.C. has been compressed into one volume with a detailed scheme of chronology (Breasted, 1910; in German by Erman, 1923).

The workmanship of stone implements from Egypt attests the fact that some predynastic Egyptians had mastered the difficult art of flint knapping. In Neolithic times these skilled lapidaries made slender flint armbands, while the finely serrated edges of sickles, and ripple-flaking that is done by pressure, were well executed. Flint arrowheads were of the best workmanship. Moreover, there were implements of copper in some of the predynastic graves, and bronze, which is an alloy of copper and tin, was known in Egypt at an early date, but iron work was rather late in making an appearance.

Flinders Petrie's work "Arts and Crafts of Ancient Egypt" shows the high standard of workmanship attained in weaving with the vertical cotton loom, leatherwork, making beads of stone and glass,

ivory-turning, wood-carving, basketry, pottery, and jewelry of gold and silver.

In addition to the evidence of skilled handwork, many examples of which have been recovered from royal tombs such as that of Tut-Ankh-Amen, the Egyptians are known to have had a complex religion and philosophy. Sacred writings, notably the "Book of the Dead," explain the Egyptian outlook on life, death, and the journey of the spirit to the judgment halls of Osiris. There the heart was weighed in the balance, and the deceased had to recite the negative confession before forty-two judges, denying the sins of adultery and false witness, and in substance abjuring all the human weaknesses which are proscribed by the Ten Commandments; these are possibly a derivative from the Egyptian code (Petrie, 1923).

The journey to the land of shades was not an easy one, a fact which is attested, not only by sacred writings and pictures describing the combats of the spirit with serpents and other monsters, but also by the wrapping of amulets in the swathings of the mummy. In order to avoid damage to mummies the contents of the wrappings are now studied at Field Museum by means of X-ray photographs which indicate the nature and position of amulets and the technique of the embalming process. The photographs also indicate the presence of fractures and methods of reducing them, while diseases of bone are in some instances clearly shown (Moodie, 1931). The spread of the practice of mummification from Egypt has been discussed by the late-G. Elliot Smith (1929) but his belief in a world-wide diffusion from Egypt has been freely criticized and is not generally accepted.

Egyptian mythology was particularly rich in explanatory stories. Thus Toth is described and pictured as a scribe who stands by the god Khnemu. The latter is molding men on his potter's wheel, while the former marks off the span of each life by cutting notches on a palm stem. In this way human origins and destinies were accounted for by etiological stories.

The communal life of the Egyptians was complex, for in addition to a hierarchy of priests, who were the custodians of documents that they themselves compiled, there were sacred kings, tax-gatherers, military organizations, corvées of labor for public works, and a commercial system that sent caravans south to the Sudan and east to the Red Sea. National life was focused in the king, whose strength and longevity depended on spiritual power, which was ceremonially renewed in a temple by laying the royal hands on an image of Ra, the Sun god.

Art and sculpture were closely associated with religious belief, mythology, and handwriting, which progressed from a system of hieroglyphs to a cursive hand. The importance of handwriting cannot be overestimated, since the social and religious structure, together with the material progress, is described in documents that cover a period from about 3500 B.C. up to the Greek and Roman occupations, and beyond them to the period of Arab conquest of Egypt in the seventh century of the Christian era.

That some diffusion of beliefs and customs from Egypt has taken place is certain, but no comprehensive study has yet shown the effects of culture contacts of the Nile Valley on social systems of Africa. Several anthropologists have, however, called attention to some arresting similarities between certain traits of Egyptian and Negro culture (Delafosse, 1900; Meek, 1931a, *passim*; Talbot, 1926, *passim*; C. G. and B. Z. Seligman, 1932, p. 34; H. R. Palmer, 1936b). G. E. Smith (1929) and Perry (1926) present the broadest possible views of the world-wide spread of Egyptian or Heliolithic culture. The number of traits that spread from the Nile Valley, the distance they traveled, and the degree of modification they experienced are uncertain. But the following may be instances of the spread of cultural traits from Egypt to other parts of Africa.

The Egyptian idea of the king as a sacred being, on whose vigor national welfare depended, led to the custom of killing decrepit kings, so that the prosperity of the country might not be impaired. Up to recent times this custom of killing the king prevailed in Uganda, among the Shilluk of the Upper Nile, and in west Africa among the Yoruba (C. G. Seligman, 1933). The Bahima, a Hamitic tribe of Uganda, practiced the Egyptian custom of brother and sister marriages within the royal family so that the dynasty might be preserved.

The fact that Hamites penetrated the Nile Valley, advanced down the eastern side of Africa, and exerted an influence on Negro west Africa, should not be forgotten when attempting to explain the distribution of these apparently Egyptian customs, which might perhaps be more correctly described as Hamitic rather than specifically Egyptian (C. G. Seligman, 1913, pp. 593-704).

The Egyptians believed in a spiritual double, which after death visited the tomb where offerings and material comforts were provided, and to this ethereal counterpart of the body the name *ka* was given. In Ashanti a similar belief exists, for the *kra* escapes from the body of a dying person, whose gasps are said to be due to the exertion

of the *kra* in an uphill journey to the spirit world (Rattray, 1927a, pp. 153, 318).

Use of a funeral boat by the Jukun of Nigeria and the digging of shafted burial chambers resemble Egyptian practices. The hierarchy of gods, the elaborate priesthoods, and the worship of sacred animals among the Yoruba and the Ashanti may perhaps be added to traits that may have been derived from the Nile Valley. Personal observation and reference to the writings quoted suggest that Ashanti, Dahomey, and part of Nigeria have similar cultural traits relating to kingship, theology, and art, and that these coordinated traits show resemblance to the Egyptian system, though there is always the possibility of independent development. Much more detailed comparison is necessary to make a demonstration.

Egypt has acted as a cultural gateway to Africa from Asia, and in the Nile Valley many Asiatic traits have been absorbed, utilized, perhaps changed in form, and then passed on. Reference has been made to the cultivated plants and domestic animals which may have entered Africa by way of Egypt, and to the observations already made should be added data from an article by H. H. Johnston (1913, pp. 375-417). This writer believes that humped cattle came from India, and that the short plump goat is a native of Syria, while the same country is mentioned as the probable home of the Roman-nosed goat with long hair and pendent ears. Domestic fowls were probably introduced from India, Syria, and Persia. Some breeds of horses, Arabian camels, long-horned cattle, and fat-tailed sheep are probably Asiatic in origin, and there is a possibility that rice and wheat first came from Mesopotamia.

As the story of African contacts with Asia is unfolded, and the function of early Semites, and later Arabs, as culture carriers is made clear, there is a natural tendency to examine African cultures with the purpose of isolating the borrowed elements. Da Barros (1777-78) is a standard work of consultation for the history of Arabs in east Africa. Hirschberg (1931, pp. 272-275) has discussed Arabian, Persian, and Indian influences in east Africa, and Stuhlmann (1910) called attention to east African methods of working in iron and brass that show Arab and Persian influence. Hirschberg demonstrates similarity between systems of time reckoning near Lake Victoria and those used in early Arabian and Persian times. Schoff (1912) has written a valuable commentary on an ancient document, "The Periplus of the Erythrean Sea" (circa A.D. 60), giving an account of Arab voyages on the coast of India and lower east Africa.

The Midgan hunters of Somaliland use a bow resembling the sigmoid Asiatic form, and in Abyssinia there are in use round shields whose prototypes are Asiatic. Two musical instruments, not of African origin, are widely used in north and west Africa. One of these is a pottery drum having a piece of hide as a tympanum, and the other instrument, which has a variety of forms, is a kind of fiddle provided with horsehair strings. A small bow strung with the same kind of material is used for playing the instrument. L. Frobenius (1922) has described and plotted the distribution of these and other alleged Asiatic traits, which he has discussed more fully in "Kultur-Geschichte Afrikas" (1933).

Contacts between Egypt and Persia have been frequent and prolonged, and in view of the early manufacture of chain armor (Fig. 75, *b*) in the latter country, there is almost a certainty that this form of protection for man and horse entered Africa by way of Egypt. In addition to a Persian origin of chain mail (Laufer, 1914) there may be truth in the statement that the Crusaders on their way to and from Palestine, from the eleventh to the fourteenth century, introduced some of the chain mail.

Making silver wire, beating out vessels of brass, also casting in bronze, are not usual and indigenous handicrafts of Negroes, and all the evidence suggests migration of these traits over north Africa, and into the western part of the continent. In Ashanti cloth is ornamented with designs stamped on the material by wooden blocks, which is a well-known Persian method.

The shaduf, a lever for raising water from wells, is used in northern Nigeria and this is known to be a device used in ancient Egypt. H. Ling Roth (1917, pp. 113-150) offers the opinion that the vertical cotton loom of Egypt may have migrated along the north African shore, across the Sahara, and into Nigeria. The reed canoes and harpoons used by the Buduma of Lake Chad are definitely like those pictured in ancient Egyptian drawings. Almost everywhere in Africa coiled basketry is made by a technique that was employed in Egypt five thousand years ago.

Those who favor independent invention as an explanation of the occurrence of like forms would point out that the similarities might occur through convergence as a result of similar needs, the presence of identical materials, and existence of certain obvious ways of manufacture. Yet adoption is easier than invention, since creative genius is rare, and a detailed examination of the subject might prove

that the cultural influence of Asia and Egypt has been widely diffused in north Africa. We need, however, an accurate time scheme.

In the 18th dynasty (1600 B.C.) Egypt founded an empire in western Asia, and about this time Egyptian armies occupied the Sudan south of Egyptian territory, where Negro kingdoms exercised considerable power. Rameses III invaded and conquered the south of Palestine several centuries later, after which exploit he marched through Syria and returned to Egypt laden with spoil.

But in 680 B.C. the Egyptians encountered misfortune when their country was invaded by Esarhaddon, King of Assyria, who conquered Memphis. A century and a half later, the Nile Valley was under the dominion of Persian rulers.

In addition to acknowledging Egypt as a focal point for the reception and distribution of Asiatic traits, the importance of Phoenicians, Greeks, Romans, and Arabs should be considered in chronological sequence, for each of these influenced the culture of Egypt and other parts of north Africa. A valuable summary of historical events in north Africa with special reference to the eastern Libyans has been prepared by Bates (1914), who presents an extensive bibliography of Egyptian, Greek, Roman, and modern French sources. The history of the Libyans is considered in two main periods: namely, from protodynastic times to 1000 B.C., and from that date to the Arab conquest in the seventh century of our era. From Egyptian texts and sculptures inferences are drawn respecting the dress, tattooing, material culture, religion, and social life of the Libyans. For modern history of the Anglo-Egyptian Sudan see MacMichael (1934).

PHOENICIANS

The date at which the Phoenicians separated from the Semitic matrix to which they belong is unknown, but a thousand years before the Christian era the Phoenicians were a thriving commercial nation occupying a narrow strip of seaboard at the eastern end of the Mediterranean Sea. This territory, about three hundred miles long and thirty miles wide, was named Phoenicia by the Greeks.

Expansion on the landward side was checked by the mountains of Lebanon, and by hostile tribes, the Philistines, to whom the Phoenicians paid tribute. Although of such small size, Phoenicia contained twenty-five cities, of which Tyre and Sidon were the most important. Of the former city Zechariah said, "Tyre did build herself a stronghold and heaped up silver as dust, also fine gold as the mire of the streets."

The language of the Phoenicians was a Semitic tongue having affinities with other Semitic languages, namely, Hebrew and Arabic. Punic is the name given to the Phoenician dialect spoken at Carthage, and though a dead language it has been studied from inscriptions near Carthage and other Phoenician settlements of north Africa. Some of the signs employed in Punic survive as elements of the T'ifinagh alphabet, which is still written by a few Tuareg (Table 9, p. 303). The religious beliefs of the Phoenicians recognized a pantheon of gods, one of which was Moloch, to whom human sacrifices were offered. M. A. Levy's "Phönizische Studien" (1856-70) is an old but standard work on Phoenician history and customs.

The Phoenicians were concerned chiefly with trade, and warfare formed no part of their ambition. The Carthaginians were satisfied with local conquests and the enlisting of mercenary troops from Berber and Negro tribes in the neighborhood of Carthage, but no subjugation of the far hinterland was attempted. Cultural influences spread through the agency of trade, which was carried on round the west coast as far as territory now known as Sierra Leone. In view of early Phoenician enterprise, there is no difficulty in believing that some cultural traits from north Africa reached the coast of west Africa, either by sea or across the Sahara. Bovill (1933a, chap. 2, pp. 13-22) gives a summary of Phoenician discovery and states that possibly Hanno reached Gabun River, north of the Congo estuary. He believes that the historical evidence is sufficient to suggest an overland trade from Carthage to the western Sudan. The archaeology of Carthage has been described by Ehrenberg (1927), Gsell (1913-28: vol. 2, pp. 1-92; vols. 1-4, *passim*), and Hard (1934). H. R. Palmer (1931) has discussed the west coast voyage of Hanno, a Carthaginian.

The Phoenicians were expert makers of purple dyes, linen, woolen goods, cotton fabrics, silk, glass, and pottery. Copper was obtained from the island of Cyprus in the eastern Mediterranean, while longer voyages were made through the Strait of Gibraltar to the Scilly Islands near the coast of Britain, where tin was obtained. The amalgamation of tin and copper forms bronze. The Phoenicians were well acquainted with the method of terracing hillsides, a process which was necessary in their homeland in order to increase the area of cultivation. To what extent these factors of Phoenician culture were transmitted to west Africa will possibly remain undetermined, for cultural resemblances are only suggestive and not conclusive.

J. L. Myres (1901) presents a photograph of pottery in the market at Khoms or Lebda in Tripoli, the modern representative of Leptis Magna. The pots illustrate in a remarkable way the extent to which successive cultures may flood an area without extinguishing old cultures. The pots definitely preserve bronze age, Phoenician, Graeco-Roman, and early Arab types.

Among the Yoruba of Nigeria certain forms of art, including terra cotta heads and stone figures of human beings, bear some resemblance to Phoenician style (Delattre, 1896; Cagnat, 1909; Kelsey, 1926). Monolithic pillars and stone circles of Gambia and other parts of west Africa may also be due to Phoenician influence. At Ifé in Nigeria (Fig. 84) priests in charge of a certain sacred grove where terra cotta heads are preserved have robes and mitred head-dresses resembling those shown in some Carthaginian sculptures, and these factors, combined with the Phoenician traits previously mentioned, may be intrusions into Negro culture (Hambly, 1935a, pp. 464-468).

During eight centuries Phoenician power was consolidated in the Mediterranean, but about two centuries after the founding of Carthage the state of Rome came into existence (753 B.C.). At first the Romans struggled for independence against the Etruscans of northern Italy. Later they consolidated their power and defeated the Greeks, but for a long period the issue of the struggle between Rome and Carthage was doubtful.

Hannibal, Carthaginian statesman and general, crossed from north Africa into Spain, thence by Alpine passes into Italy, where he dominated the situation for thirteen years. He was finally expelled (Livy, XXI, XXII). The Romans, who were not originally a maritime people, built a fleet, and from that time onward they took aggressive measures against Carthage. A series of conflicts known as the Punic wars ended in the utter destruction of Carthage in the year 146 B.C.

GREEKS AND ROMANS

From this period Roman power in the Mediterranean was extended and stabilized, and today roads, aqueducts, and remains of cities such as Timgad and Tebessa attest the thoroughness of the Roman occupation. Cyrenaica became a Roman province, as also did Egypt, which, on the death of Cleopatra, about thirty years before the birth of Christ, was ruled by a Roman prefect. Bovill (1933a) shows a map of the Roman Empire extending about four hundred miles inland from the Mediterranean. The tribes known

as Garamantes occupied territory now called the Fezzan. The Gaetuli lived in northwest Africa, and the Nobatae and Blemmeys in the Nile Valley. Bates (1914) has brought together a series of ethnographical maps of north Africa according to data from Herodotus, Scylax, Strabo, Diodorus Siculus, Pliny, Ptolemy, and Arabian geographers. Newbold (1928) has discussed these classical sources, and Milne (1898) has prepared a "History of Egypt under Roman Rule." Boissier (1899, 1901) has written descriptions of the archaeology of Roman Africa in Algeria and Tunis. Bunbury (1883) has published a compendium on the Greek and Roman period in Africa. Gautier (1937) has made an important contribution.

Under Roman dominion Christianity was founded in Egypt, and tradition says that St. Mark preached the gospel in Alexandria about A.D. 69. Despite persecution, the new religion became entrenched, though often under debased forms which incorporated the deities and magical rites of the religion of ancient Egypt. In desert monasteries the scriptures were translated into Greek and Coptic.

The spread of Christianity (A.D. 50-400) is important when studying the ethnology of Abyssinia at the present time. Actuated by religious zeal, and to some extent compelled by persecution, Coptic monks carried Christianity into Abyssinia in the fourth century, from which time the Abyssinian church has existed. The schisms of the early church led to the formation of sects known as Gnostics, Monophysites, and Nestorians, whose views differed respecting the theological background of Christianity. Divergent creeds evolved respecting the divinity of Christ, the nature of the Holy Ghost and the Trinity, and the extent to which factors of Egyptian religion might be incorporated in the Christian faith.

Three centuries before our era Greek rulers named Ptolemies administered the region of the Nile Delta (Mahaffy, 1899), and before this the Greeks, and their forerunners the Aegeans, had made daring voyages, in rivalry with Phoenician competitors. Ptolemy I founded the Alexandrian Library and Museum, and his successor built the Pharos Lighthouse at Alexandria, a beacon which was regarded in ancient times as one of the seven wonders of the world.

Pending further archaeological work in the hinterland of north Africa, an estimation of the inland spread of Greek culture would be premature, but linguistic research by H. R. Palmer (1932, p. 305) has shown the existence of Greek words in Kanuri, a language spoken north of Lake Chad in central Africa. Some characters

of the Greek alphabet have been incorporated into T'ifinagh, a script known to a few Tuareg. Notwithstanding the importance of Greek maritime enterprise along the north coast, the conquest of Egypt by Alexander the Great in 331 B.C., and the rule of the Ptolemies, the Greek period bears little relation to the history and ethnology of Africa as a whole.

Although the Roman Empire had completely annihilated her Phoenician rival, Roman power in north Africa was not uncontested. Berber tribes, who are part of the northern Hamites, revolted, notably under Jugurtha. To the Romans this man was a rebel; to his countrymen he was a patriot. The defeated Jugurtha fled, only to be betrayed to his Roman enemies, who, according to custom, paraded him through the streets of Rome, and then allowed him to perish in a dungeon.

Opposition to the Roman Empire was not confined to the northern coast of Africa. Warlike Libyan tribes of the desert west of the Nile, and Hamitic and Negro tribes on the eastern banks of that river demanded constant alertness on the part of Roman garrisons. Latin names for these tribes occur repeatedly in the works of Roman historians, but the identification of the ancient names with present-day tribes is not always certain (Bates, 1914, p. 132; Palmer, 1936b).

Mention has been made of the journey of Roman centurions to the Upper Nile, and it seems probable that Julius Maternus crossed the Sudan through Kordofan to the oasis in which Bilma is situated. From this point he appears to have returned to Fezzan in Tripolitania. Roman explorers of two thousand years ago returned from Saharan exploration with stories of a great river, the Niger, which drains the greater part of west Africa. Reports of this river were in circulation even in the time of Herodotus in the fifth century before Christ, and the information brought back by Julius Maternus, A.D. 150, served to stimulate geographical interest, until at last the mystery of the Niger's course was solved by the Landers in the early part of the nineteenth century.

After several centuries of sovereignty in north Africa and Egypt, Rome experienced shattering defeat such as she had inflicted on the Phoenicians and Greeks. From northern Europe came Teutonic tribes, the Vandals, who wrested the north African provinces from Rome and sacked the city of Rome itself in the year A.D. 455.

Cultural traits of the Romans are not known to have penetrated far inland, but the Yoruba of Nigeria have a structure for collecting rain, and this bears a resemblance to the Roman impluvium. Some

horsemen of the Bauchi plateau, Nigeria, wear protective metal shin-guards which are not unlike Roman greaves. Yet, on the whole, the influence of the Roman conquest appears to have been confined to the northern littoral. Contact with Negroes influenced the literature and art of Greece and Rome (Beardsley, 1929).

BYZANTINE INFLUENCE

The importance of Byzantium should be recognized, since a certain architectural style and many works of art are described as Byzantine (Diehl, 1890). The adjective is derived from the name of the town Byzantium, which was founded about 657 B.C. on the shores of the Bosphorus, where now stands the Turkish city of Istanbul (Constantinople). From the time of its cultural maturity under Justinian in the sixth century of our era, the city of Byzantium spread an influence that affected the art and architecture of eastern Europe and north Africa until the twelfth century.

The Byzantine style, which is exemplified by the mosque of St. Sophia in Constantinople, and St. Mark's in Venice, is highly ornamental, having elaborate carvings, mosaic work, floral decorations at the heads of columns, lofty domes, and vaulted arches. The Byzantines (Dalton, 1911) worked in gold, ivory, textiles, and silver with a skill that has certainly affected the crafts of north Africa, and possibly even those of west African Negroes.

The Tuareg of the Sahara use the design of the cross for the hilts of their swords and daggers. They have this design on the wooden posts of their camel saddles, and as a neck ornament some persons wear an Agades cross. An art form of this kind might arise independently, but on the contrary there may be truth in the suggestion that these designs are derived from a Christian motif which was common in Byzantine decoration.

JEWS

The part played by Jews in this complex history of north Africa is not one which is important for the continent as a whole, yet the presence of colonies of Jews in Morocco, Algeria, Tunisia, Tripolitania, Egypt, and Abyssinia is of sufficient interest to call for comment.

After becoming detached from the Semites of southwest Asia, the Israelites, who evolved a written language called Hebrew, at a later date settled for a period in Egypt. The story of their serfdom under the Egyptians, their exodus, wandering, and consolidation in Palestine are matters of Biblical history, which also gives a clear

account of their social organization under a patriarchal system in which the oldest male ruled the family. The Bible makes clear a gradual evolution of religious thought, moral codes, laws of inheritance and succession, along with anthropological data describing taboos, omens, magical practices, and witchcraft (J. G. Frazer, 1927). Much of the lore of the Old Testament is recognizable as Semitic, and as such was shared by Phoenicians, and later by Arabs. We should therefore recognize that wherever Jews settled in Africa they tended to establish Semitic customs, as, for example, circumcision and use of the scapegoat, which were of remote antiquity among the Semites of Arabia (W. Robertson Smith, 1889, p. 296; 1907, pp. 57, 61).

Three centuries before Christ large settlements of Jews existed in Lower Egypt, where Alexandria was one of their chief centers of commerce. Gradually these Jewish colonies extended along the north coast of Africa, through Cyrenaica, and even to Mauretania in the far west. The destruction of Jerusalem in the year A.D. 70 no doubt added to the population of these African settlements, and it is certain that Jewish immigrants were numerous when the Jews were expelled from Spain and Portugal in the fifteenth century.

The most important southward migration of Jews was probably that of about A.D. 115. Two routes were followed, one by way of Air, Niger, and Senegal, and the other from Morocco through Mauretania. In the oases of the Sahara the Jews preserved their identity, but in the Sudan they were absorbed into the native population (Bovill, 1933a, p. 27).

The origin of the Jews in Abyssinia is unknown. Evidently the Jews, named Falashas (Fig. 38, right), have mingled with some dark-skinned strain, possibly Negroes of Abyssinia, for they are darkly pigmented; hence the name Black Jews. The Falashas segregate themselves from all other sects, including Christians, and in church organization, belief, and ritual they jealously guard many Old Testament beliefs and practices. The part which Jews have played in the history of south Africa has been described by L. Herrman (1930). "Hebrewism of West Africa," by J. J. Williams (1930), is a compilation that should be critically consulted. There are therein some informative data relating to infiltrations of ancient Semitic beliefs and customs. These are, however, treated as being specifically Jewish.

ARABIAN CULTURE

More important than any of the historical facts yet mentioned is the part played by Mohammedan culture. Mohammed, who was

born early in the seventh century of our era, added traits of religion, government, law, and art to the fundamentals of early Semitic life. Then, under an impetus of religious fervor, the Arabs, with Semitic background now carrying the new factors of Koranic teaching, swept into the Nile Valley, which they conquered in A.D. 641. Gibb (1926) has provided a useful synopsis of Arabic literature together with a bibliography, and Lane-Poole (1901) has given a succinct account of the Arab dynasties in Egypt.

From the Nile as a focus the Arabs spread along north Africa and established Kairwan near the site of the ruined Carthage. Then they continued westward and crossed into Spain, where the architecture of southern cities such as Granada attests Arabian influence. Under Tarik the Omayyad caliphs of Egypt ruled north Africa from the Nile to Morocco until the middle of the eighth century.

About this time the Omayyad dynasty was overthrown by the Abbasids, of whom the well-known Harun-al-Rashid, a famous caliph of the "Arabian Nights," was a distinguished ruler. Through Arab rule, which extended to north India and Persia, cultural contacts between north Africa and the middle east were effected. In the eleventh century there spread along north Africa and across the Sahara into the Sudan a wave of Arab conquest, carrying Mohammedanism and cultural adhesions that have been summarized by Hambly (1935a, pp. 462-463). The influence of the Mohammedan expansion on arts and handicrafts has been well described by Dimand (1930) in a beautifully illustrated guide to these works of art in the Metropolitan Museum of Art, New York. This second invasion was far more important than that of the seventh century, the effects of which were somewhat transient. The later Arab invasion imposed the Mohammedan religion on the Tuareg and other Saharan tribes, and in addition the kingdoms of the Niger were affected by religious and other cultural influences of the Arab conquerors. Further, the rule of Arab dynasties in the Nile Valley gave an impetus to tribes of Hamitic culture, who traveled westward and imposed their physique, language, and culture on some Negro tribes of west Africa. The most important of these tribes traveling westward were the Zagawa, who penetrated the western Sudan where they stimulated the Mali Empire and the Soninke Dynasty (Bovill, 1933a, p. 48; MacMichael, 1912b, pp. 288-344; Palmer, 1928).

Following the Beni Hillal and Soleim Arab invasions of north Africa, the Mohammedanizing of west African Negroes proceeded steadily. The process of overlaying Negro and Hamitic culture

with Mohammedan beliefs and practices continues at the present time, and although local resistance has occurred, notably among the Mossi of the middle Niger and the pagan tribes of the Bauchi plateau, it may be said that Islamic influence has profoundly affected Africa north of the equator. It is true that some Negro tribes have no more than a superficial acceptance of Mohammedanism, for the converts do not pray, observe the festivals, or know the precepts of the Koran. But, on the contrary, a further study of physical anthropology, languages, and modes of life will prove the deep penetration of Arab influences in some regions.

In this connection the different possibilities of miscegenation should be borne in mind. Physical mixture of Arabs and Negroes has occurred, for Arabs had concubinage with their Negro slaves, and some persons of Negro physique will describe themselves as Arabs because they or their ancestors were honored slaves in an Arab household. Language may be adopted without physical mixture or the transmission of culture; or, again, a cultural trait, for example, the Mohammedan religion, may be accepted by tribes which still retain their own languages and other cultural elements. The Tuareg, for instance, have taken Mohammedanism as their religion, but they have not intermarried with Arabs; they retain their own language, Tamashek; and they regard Arabs as their enemies.

Mohammedanism advanced across the Sahara into the Negro kingdoms of west Africa not only by conquest. Large numbers of Mohammedan ascetics, named the *almoravides* or *marabouts*, preached the tenets of their faith and organized their followers on a military basis. Under Ibn Yacin the *almoravides* were consolidated, and when he was killed in A.D. 1057 control passed to Abu Bakr, then to Yusuf, his nephew. In 1062 Yusuf founded Marrakesh and captured Fez. He then entered Spain and took Granada, but the *almoravides* were finally expelled from Spain and defeated by Berber tribes of north Africa.

From the bend of the River Niger to Lake Chad a succession of empires was founded by tribes of Negro blood, with some infusion of Hamitic elements of physique, language, and culture. An outline of historical events in the western Sudan has been given by Maurice Delafosse (translation by Fligelman, 1931), and H. R. Palmer (1928) has made many important contributions to our knowledge of this period. At present only a small amount of archaeological work has been done on sites of west African Negro civilizations, and further research among documents of the period A.D. 1050-1500 is necessary.

Yet the outline of events is known. At intervals new documents are acquired, or some of those which have been in European archives for many years are translated (Palmer, 1936b).

The powerful kingdom of Ghana on the Niger was mentioned for the first time by Masudi, who died A.D. 956. Ibn Haukal visited the site a few years later, and El Bekri gave a fairly detailed description of the city in the eleventh century. Archaeological excavations by Bonnel de Mézières in the year 1914 have confirmed the description of El Bekri (Monteil, 1932).

For several centuries the states of Ghana and Songhai flourished simultaneously. The history of Songhai is intimately connected with the powerful kingdom of Melle, which was built up by the Mandingo. Melle reached its zenith in the period 1308-31, at which time the empire covered the western Sudan, including the state of Songhai and the Tuareg town of Timbuktu. Ibn Batuta, who visited Melle in 1352, makes clear that the Melle Empire was the most important political, religious, and commercial center in the Sudan.

By the end of the fifteenth century Melle had been overthrown and succeeded by Songhai, which in turn was devastated by El Mansur of Morocco in 1591. The writings of Ibn Edrisi (1099-1154), Ibn Batuta (1325-54), and Ibn Khaldun (1332-1406) were all valuable historical contributions. In the sixteenth century Leo Africanus described his travels across the Sahara, and from the bend of the Niger to Lake Chad, thence across the desert again to north Africa. This exploration provided data which were all that historians and geographers had for guidance during the following two hundred years (for translations see W. M. Slane, El Bekri, Ibn Batuta, Ibn Haukal, Ibn Khaldun, and Leo Africanus).

ZIMBABWE AND THE ARABS

In connection with Arab penetration of Africa the Zimbabwe ruins of the southeast should be briefly described. The ruins, which are built on the site of ancient gold mines, are historically connected with the trading activities of Arabs on the lower east coast of Africa, about A.D. 1000, but the racial identity of the builders and the date of construction are unknown (see also A. T. Curle, 1937).

For many years the Zimbabwe ruins had a romantic reputation based on an alleged connection with King Solomon, circa 1000 B.C., whose supplies of gold were said to have come from this region. The name Zimbabwe is used by the Makalanga tribe of Southern Rhodesia for the dwelling of a principal chief, and it is natural that such a

name should be transferred to any well-built structure. The Elliptical Temple has a circumference of 830 feet, and the enclosing wall is 15 feet thick and 32 feet high. The structure is built of stone blocks made from material that is abundant on the surrounding kopjes, and the blocks have been trimmed to fit with accuracy, even though no mortar has been used. It could not be said that Negroes never build with stone, but the Zimbabwe structures suggest a foreign influence for the planning and supervision of the architecture. C. G. Stevens (1931) has suggested a chronology for the several types of architecture which he illustrates in detail.

European interest in Zimbabwe began in the year 1867, when Phillips and Renders discovered the ruins during bush travel. Four years later, Karl Mauch stated that the ruins were a copy of King Solomon's temple, an unwarranted statement, but one that aroused popular interest and imagination.

In 1892 T. Bent collected many of the objects which are now in the South African Museum, and in the course of his observations came to the conclusion that the site had a Syrian origin. Following the work of Bent considerable damage was done by curio hunters, who are said to have taken a thousand ounces of gold ornaments. The site was subsequently examined, though not completely, by R. N. Hall (1895-1903), and a little later by Randall MacIver (1906), who expressed the opinion that the ruins were not of great antiquity.

Arabian geographers of the ninth and tenth centuries of our era describe a land of Zendj in the hinterland of the present port of Beira in Portuguese East Africa, where African natives had supplies of gold. A trade in gold between Africa and India is also mentioned in these chronicles. Da Barros, writing in 1552, spoke of a fortress of dry walling called Zimbabwe, already old, and the source of superstitions and folklore among Negroes and Arabs. As early as 1721 Da Costa suggested that King Solomon obtained gold for his temple from Zimbabwe, and the belief was perpetuated for more than two centuries.

In the neighborhood of Zimbabwe soapstone is found, and this is readily worked into ornamental forms; for example, Bushmen of today make it into bowls for tobacco pipes. It is not surprising, therefore, that excavations at Zimbabwe should yield objects of soapstone. These include columns, bowls, birds, and objects said to be an imitation of the phallus. Carvings of the male sexual organ have suggested the former presence of fertility cults and phallic worship as part of the religious exercises of ancient inhabitants.

The site has yielded fragments of Chinese porcelain, dark blue glaze of Persian make, Arabian glass, gold bangles, crucibles and furnaces for smelting gold, spindle whorls of soapstone and clay, and types of black pottery and red ware that resemble present-day products of potters in the neighborhood. Ingots of copper in the form of a letter X and molds of the same shape have been discovered. Bronze was used from the earliest period of the site, and analysis of the alloy, which contains 12 per cent of tin, indicates considerable metallurgical ability. The tin and copper could have been obtained locally. Iron and evidence of its manufacture occur at the lowest levels of excavation.

A recent survey of Zimbabwe has been made by Miss Caton-Thompson (1929) who has published a summary of the historical facts, the conflicting hypotheses of archaeologists, and the results of personal excavation. Another summary and bibliography has been compiled in Italian by Cipriani (1932), who gives an extensive bibliography. The presence of imported beads in bed-rock levels is crucial evidence for fixing an approximate date for the earliest foundations. Experts are of the opinion that the beads are of a type made in India in the ninth and tenth centuries of our era, and any date earlier than A.D. 200 for the origin of the buildings is improbable. A period of four centuries, probably A.D. 900–1300, is allowed for the rise, prosperity, and collapse of the civilization that existed at Zimbabwe. This, however, should not be regarded as a final judgment, for the ruins are still under investigation. Lowe (1936, pp. 282–289) reports that at Mapungubwe in the northern Transvaal excavations have yielded gold beads and gold ornaments, colored beads, Chinese porcelain, ivory, copper, bronze, and iron. Some of the objects resemble those discovered at Zimbabwe, and there is evidence of a widely spread medieval culture.

In the year 1517 Arab dynasties in Egypt were overthrown by the Turks, who had taken Constantinople in 1453, and the Ottoman Empire became a power in north Africa. But in 1584 a Turkish fleet was defeated by the Portuguese near Mombasa, and Turkish suzerainty slowly succumbed before attacks of the English and French, until Turkish rule in north Africa was definitely ended during the World War of 1914–18.

The foregoing summary of datable events has brought our historical survey up to the European period of exploration and conquest, which will be described in section IV. The historical review of Egyptians, Phoenicians, Romans, Greeks, and Arabs has peeled

off only a surface layer of the cultures of man in a restricted part of Africa, and the period we have dealt with is almost negligible compared with the total lapse of time since Pleistocene man first made his appearance in Africa. Prehistoric evidence has, therefore, to attempt a reconstruction of African history over a long era extending from early Pleistocene times to 4000 B.C. The duration of the Pleistocene period is a matter of conjecture and controversy, but according to Schuchert and Dunbar (1933, p. 432) "all students of Pleistocene history now agree that the entire duration of the Pleistocene was at least several hundred thousand years. It probably exceeded a million years." There is uncertainty, too, as to when the Pleistocene ended and the Recent period began, but perhaps a duration of 25,000 to 30,000 years is a fair estimate of the length of the Recent period.

III. PREHISTORY

FOSSIL MAN

In the "Descent of Man" Charles Darwin (1892, p. 155) writes: "In each region of the world the living mammals are closely related to the extinct species of the same region. It is, therefore, probable that Africa was formerly inhabited by apes closely allied to the gorilla and the chimpanzee; and as these two species are now man's nearest allies, it is somewhat more probable that our early progenitors lived on the African continent than elsewhere. But it is useless to speculate on this subject; for two or three anthropomorphous apes, one the *Dryopithecus* of Lartet, nearly as large as a man, and closely allied to *Hylobates*, existed in Europe during the Miocene age; and since so remote a period the earth has certainly undergone many great revolutions, and there has been ample time for migration on the largest scale."

Of the anthropoid apes perhaps the gorilla has attracted most attention popularly and scientifically. The distribution of this ape is limited to a belt of equatorial Africa north and south of the equator, but the chimpanzees are more widely distributed. The interest of physical anthropologists has been specially concentrated on the anatomical characters of chimpanzees, gorillas, orang-utans, and gibbons (the two latter not found in Africa). All these anthropoids are regarded as members of a primitive primate stock which ultimately produced *Homo sapiens*, though anthropologists are not fully agreed on the lines of evolution. A simple exposition of the phylogenetic relationship of the anthropoids to man will be found in the works of Coolidge (1929), Keith (1929), and Hooton (1931).

In addition to the tailless apes of Africa there are many species of monkeys with tails, which are not, however, used for hanging from the branches of trees. This prehensile habit is followed by monkeys of South America, but not by African monkeys. Dogfaced baboons are common in rocky hills of Africa. Baboons play a prominent part in Negro folklore, and they entered into the mythology and spiritual beliefs of the Egyptians, who represented them pictorially. But the gorilla and the chimpanzee are the two extant African forms that are of primary interest in a scheme of human evolution.

Hooton (1931, p. 381) states that "Africa's contribution to the history of higher primate evolution is already generous." The

principal items are *Parapithecus*, the earliest fossil monkey yet known; *Propliopithecus*, the first anthropoid ape; *Dryopithecus mogharensis*, most ancient of the giant primates; *Australopithecus*, alleged to be a humanoid ape of the Pliocene; and *Homo rhodesiensis*, the gorilla-browed specimen of the Broken Hill mine.

Yet, despite Hooton's optimism respecting this evidence from Africa, a glance at a map prepared by E. W. Smith (1935, p. 31) indicates that very few sites have yielded remains of ancient man. Of the nineteen sites marked on the map, nine are clustered east of Lake Victoria Nyanza, four in a narrow area in the extreme south-east of the continent, and only three in the north, leaving most of the twelve million square miles with no evidence whatever. Hooton (1931) and E. W. Smith (1935) have provided a summary of these discoveries, but to use the words of the latter "there is as yet not much to be told," and one might add that the little which is known is controversial. Let us see how debatable points arise, and how the conclusions of experts differ.

Since several accounts of fossil man have stressed the writings of Keith (1929, 1931) and G. E. Smith (1927), we will glean our data from an article by Hrdlicka (1926, pp. 173-204), who in 1925 visited the site where *Homo rhodesiensis* was discovered in 1921. At once Hrdlicka touches on the circumstances of discovery, and these were of the kind that are bound to lead to differences of opinion when fragments are examined. "The lack of precise information on certain important points was soon felt by students of the subject; and it now seems that even what was known at first suffered some subsequent confusion. There was a desire for more data regarding the position of the skull, its surroundings, the cave itself, and its fillings. The nature of the animal bones in the cave, and other points were not sufficiently well documented." Hrdlicka then reviews the literature that had accumulated from the time of the first newspaper reports, and, during all this, "errors of a serious nature have crept into the accounts of the circumstances of the discovery, and these have already materially affected important conclusions."

"Five months after the discovery the skull, a number of human as well as other bones were brought to England by the manager of the mine." Here again we see from Hrdlicka's narrative how discussion and divergent views arise. Quoting Hrdlicka (p. 102), "Above all, it became an accepted idea that several human bones brought to England with the skull were found with the cranium

and belonged to the same individual or the same people, and from the characteristics of these bones deductions were made as to the morphological and even chronological status of the Rhodesian man."

Of Rhodesian man Hrdlicka says, "The skull itself is positively not the skull of any known African type of man or their normal variants. Neither is it any known pathological monstrosity such as giantism or leontiasis. It is a remarkable specimen, of which the age, provenience, history, and nature are still anthropological puzzles. Morphologically, the skull is frequently associated with the Neanderthal type of Europe. This may be fundamentally correct, but only to that extent. In its detailed characteristics the specimen is in some respects inferior, in others superior, to anything known as yet of the Neanderthal man."

Hrdlicka continues with a record of his interrogation of persons connected with the find, and when eyewitnesses were not available for questioning, some information was gained through correspondence.

For the views of Pycraft (1928), we must turn to a report on "Rhodesian Man, and Associated Remains" (p. 46). "Highly specialized in some particulars, the skull must nevertheless be regarded as of a relatively low type, having a definite resemblance to the skulls of Neanderthal man, with which race it has affinities."

Some criticism of Pycraft's work is given by Hrdlicka (p. 117), and one point to which exception is taken is Pycraft's recognition of a new genus, *Cyphanthropus*, for the Rhodesian skull. A protest from W. E. Le Gros Clark (1928) shows how cautious one should be in accepting a single report, even from competent authority. Professor Clark's criticism reads: "Mr. Pycraft has given a description of the skeletal remains and, basing his evidence on these, has seen fit to create a new genus of Hominidae—*Cyphanthropus*. There are a number of points in his description which call for criticism, but since the evidence of the pelvis has been so remarkably misinterpreted, and since this bone is the most important indication for the creation of a new genus, I will confine my remarks to this part of the skeleton." The criticism then points out that the evidence for regarding a portion of the left ilium as belonging to the Rhodesian find is not convincing. The account continues to expose alleged errors that led Pycraft to reconstruct a pelvis with an acetabulum which "bears no resemblance to any Primate." Pycraft's orientation of the pelvis is questioned, and in conclusion the critic states:

"When these curious errors are rectified, it will be seen that, according to the diagnosis given by Mr. Pycraft on page 49 of his

monograph, the genus *Cyphanthropus* depends entirely on certain features of the skull. I find it impossible to believe that a comparison between the Rhodesian skull and the skulls of Neanderthal man will justify the creation of a separate genus for the former."

Keith states (1931, p. 117) that in brain and skull Rhodesian man is so primitive that were we moved by anatomical evidence alone we should place him at the very beginning of the Pleistocene series of cultures, but if we give geological evidence full weight, it does seem possible that he may have survived long enough to become contemporary with Neanderthal man in Europe. Keith then turns to discussion of the criticism passed on his conclusions by Hrdlicka and by Pycraft.

Sir Arthur thinks that "in the case of the Rhodesian find there should not be any hesitation in assigning the tibia to the skull; in texture, preservation, conformation, and colouring the tibia answers to the skull." The question of associating the limb bones with the skull is of primary importance, for, in Keith's opinion, "did we know only his skull we should regard him as a possible ancestor of Neanderthal man; his limb bones separate him widely from Neanderthal man and reveal his close relationship to neanthropic or modern man."

After recapitulating the observations of Pycraft and the criticism offered by Le Gros Clark, Keith concludes with the verdict that there is no need for a new genus named *Cyphanthropus*, or "stooping man"; the original name *Homo rhodesiensis* given by Sir Arthur Smith Woodward is appropriate. Furthermore, "Rhodesian man has certain points of kinship to Neanderthal man, but stands in his major characters nearer the ancestral line of modern man."

Keith (1931, p. 53) thinks that *Australopithecus*, the Taungs skull, recovered from a matrix by Professor Dart, is in all essential features an anthropoid ape. "It shares so many features with the two surviving African anthropoids—the gorilla and chimpanzee—that, to account for their common heritage, we must suppose that all three have come from the same stem. The features wherein *Australopithecus* departs from living African anthropoids and makes an approach toward man cannot be permitted to outweigh the predominance of its anthropoid affinities."

Minute examination of the evidence, and especially of that relating to teeth, size of brain, and endocranial cast, leads Keith to the conclusion (1931, p. 116) that the evidence is best explained by supposing *Australopithecus* "to have sprung as a branch of the phylum which gave us the gorilla and the chimpanzee, and not, as

Professor Dart contends, from the root of the human phylum. That *Australopithecus* should manifest humanoid characters more prominently than either the chimpanzee or the gorilla need not astonish us; the great anthropoids and man have a common inheritance drawn from the same stem. In brief the discovery at Taungs has given us not a human ancestor but an extinct cousin of the gorilla and chimpanzee."

Dr. P. Alsberg (1934, No. 179) has presented some criticism of Sir Arthur Keith's comments relating to the geology, biology, and morphology of the Taungs skull, which Alsberg regards as possibly human. He concludes: "If we were to paint a theoretical picture of the first stages of man, we should necessarily arrive at a form such as the Taungs child presents: the jaws are beginning to recede, the brain is about to increase. If Dr. Broom's opinion is correct that the Taungs creature belonged in the time of the Lower Pliocene, then the geological antiquity would also not bar the supposition that the being was human. The Taungs race would then represent a human stage far older than the Trinil (Java) race, and correspondingly much more primitive."

Past experience has emphasized the need for caution in drawing conclusions from fossilized fragments of bone. But a written report by R. Broom (1936) establishes the importance of a recent discovery at Sterkfontein near Krugersdorp in the Transvaal. The fossils consist of the base of a skull, part of the face, and a good maxilla with three teeth. Apparently these fragments represent the skull of a large-brained anthropoid ape belonging to the same genus as the Taungs ape.

Probably these fossils represent a skull which had a length of 145 mm. from glabella to occiput, a maximum parietal width of 96 mm., and a capacity of 600 cc. The brow ridges are moderately well developed, and there are two fairly large frontal sinuses. The skull is clearly that of a fairly large anthropoid, more closely allied to the Miocene and Pliocene species of *Dryopithecus* than to the living chimpanzee and gorilla. The skull may have been of the same genus as the Taungs ape, but of a different species.

Dr. Broom concludes: "It seems moderately certain that during the greater part of the Pleistocene and possibly during the Pliocene, large, non-forest-living anthropoids flourished in south Africa, and not improbably it was from one of the Pliocene members of this group that the first man was evolved." We must, however, await further discussion before accepting these statements as final.

If we accept *Homo rhodesiensis* as somewhat Neanderthaloid, and *Australopithecus* as possibly simian, there remains the important Boskop skull, which is definitely human, for inclusion in the phylogenetic tree.

The finding of the Boskop skull in 1913 has been followed by more recent discoveries that help to establish the relationship of the Boskop type to other races of south Africa. Keith (1931, p. 123) states that F. W. Fitzsimmons has discovered more than fifty burials of the Boskop type "and it has been demonstrated that the Boskop type merges into a later people, the Strandloopers. The Strandloopers in turn merge into the smaller-headed Bushman and Hottentot types. The Boskop type (length 205 mm., breadth 154 mm., capacity 1630 cc.), if not a direct ancestor of the Bushman, yet stands near the line which evolved into this type. Occasional Bushmen possess large heads of the Boskop type." Keith (1931, p. 117) states that on the information available Boskop man may be regarded as Late Paleolithic in date, practicing a culture corresponding to the Aurignacian in Europe.

Fish Hoek Bay is situated about fifteen miles due south of Cape Town, and in Skildergat Cave on the shore of the bay B. Peers and his son, assisted by A. J. H. Goodwin and M. R. Drennan, have unearthed skeletons of Bushman type. According to Keith (1931, p. 132) a skull from a deep stratum is that of a Bushman of primitive and remarkable kind having a cranial capacity of 1600 cc. Keith (p. 139) is of the opinion that all recent evidence points to south Africa as the evolutionary cradle of the Bushman type. This view of the Bushman type as being evolved in south Africa is, as our archaeological evidence will show later, contrary to a somewhat general opinion of prehistorians, who think of the Bushman type as having migrated from north Africa.

We may not, however, dismiss the phylogeny of the Bushman with ease and assurance; there are too many conflicting hypotheses. These have been collated and discussed by Dreyer (1931) in what he calls "The Bushman-Hottentot-Strandlooper Tangle." In this article the author compares the views of Drennan, Stow, Péringuey, Shrubbsall, Broom, Vedder, Spannus, Lebzelter, Hirschberg, and Bayer, of whose writings he gives a bibliography. There is no conclusion concerning the genetic relationship of Bushmen, Hottentots, Strandloopers, and Boskoids, but the article is useful in giving the outline of a complex problem and in showing how far we are from a solution of that problem.

Before we leave the subject of fossil man of south Africa, the discovery known as Springbok man, from eighty miles northeast of Pretoria, should be mentioned. Keith (1931, p. 146) has provided an illustration of the skull and mandible as restored by Dr. Broom, and after discussing details of the measurements Keith concludes that "he was a tall strong fellow with a big brain, a long and wide head, and a drawn out face, great mandible and small teeth, a type which we cannot fit into any African racial type known to us. He was cast in a mould altogether different from the Boskop and Fish Hoek men—big-brained and small-faced type."

Keith (p. 152) concludes that Springbok man "represents a Negroid or Hamitic type which made its way southward in pre-historic times probably carrying with him the Aurignacian culture of his time." This Springbok man serves as a geographical though not an anatomical link between the discoveries in lower south Africa and those of Tanganyika and Kenya.

The work of Leakey has aroused much interest and criticism, but at the moment there is no final judgment on several important points. The alleged antiquity of some of the fossil human bones is, however, dubious.

In "Adam's Ancestors," Leakey (1934b) has given a succinct account of his work in east Africa in the past decade, and this is a simple introduction to his more technical works which have been listed in the bibliography.

Beginning with Dr. Hans Reck's discovery of a human fossil at Oldoway, Tanganyika Territory, in 1914 (Reck, 1931), Leakey summarizes the data relating to human fossils since discovered in Kenya. After considerable controversy, it is now generally agreed that this skull can be assigned to the period of the Upper Pleistocene, at about the same period that the Cro-Magnon race flourished in Europe. At one time (Leakey, 1934b, p. 203) thought the Oldoway skeleton was associated with tools of the cultures known as Chellean and Acheulean, very early European stone-age periods, but later research indicated that the Oldoway skeleton was not nearly as ancient as the fossil animals and the stone-age implements found in the same deposit. The skeleton is really to be associated with the later Kenya Aurignacian culture, and to this culture also belong human skeletons found (1928-29) in a rock shelter known as Gamble's Cave II in the Elmenteita region of Kenya Colony. Leakey (1936a, pp. 172-173) plainly states what he means by the Negroid affinities of these fossils. The skulls from Gamble's Cave had straight faces

instead of the prognathous faces of typical Negroes, but in shape of the forehead they represented the Negro type.

Before considering the skeptical views that now prevail, let us take a statement of Leakey (1934b, p. 206). He summarizes the evidence relating to the Kanam mandible found near Homa Mountain, Kavirondo Gulf, Lake Victoria Nyanza. "The various animal remains from the same stratum have also been examined with a view to determining the age of this fragment of ancient man. As a result of our studies we can say now that the Kanam mandible represents the oldest yet discovered true ancestor of modern man." Leakey calls attention to details of the teeth which led him to separate his specimen from *Homo sapiens* and to create a new species *Homo kanamensis*. The evidence of geology, fossil animals, and stone tools dated the Kanam mandible as Lower Pleistocene.

The first skull fragments found by Leakey at Kanjera led to further research and the discovery of fragments of a human skull in an undisturbed stratum near the place where the first fragments had been unearthed. Leakey (1934b, Plate X) shows the two reconstructed Kanjera skulls and the Kanam mandible fragment. A study of associated fossil animals and implements of Chellean type, together with the geological evidence, supported the view that the Kanjera men belonged to the early part of what Leakey calls Middle Pleistocene (Lower Pleistocene of other classifications). In "The Stone Age Races of Kenya," Leakey (1935) gives a detailed account of Lower Pleistocene man, *Homo kanamensis*, also of Middle Pleistocene man of Kanjera, and of Upper Pleistocene man, whose remains are associated with the Upper Kenya Aurignacian culture, phase C.

From Leakey's expression of his own opinions, we may turn now to some damaging criticism of his evidence. Boswell (1935) says, "The chief object of my visit was to study the geology of the deposits from which the Kanam mandible and the Kanjera No. 3 skull fragments were obtained, for Dr. Leakey had come to the important conclusion that these remains of *Homo sapiens* type occurred *in situ* in beds of Lower Pleistocene and Middle Pleistocene Age, respectively. Unfortunately, it has not proved possible to find the exact site of either discovery." The criticism calls attention to some confusion of photographic records, and states that "the date of entombment of human remains found in such beds would be inherently doubtful.—In view of the uncertain location of the Kanam and Kanjera sites, and in view also of the doubt as to the stratigraphical horizons from which the remains were obtained, and the possibility

of disturbance of the beds, I hold the opinion that the geological age of the mandible and skull fragments is uncertain. It is disappointing, after the failure to establish any considerable age for Oldoway man (of *Homo sapiens* type) that uncertain conditions of discovery should also force me to place Kanam and Kanjera man in a 'suspense account.' " For an answer to this criticism, see Leakey (1936a, pp. 155-156; 1936c).

The osteological data collected by Bertholon and Chantre (1912, pp. 234, 239, 243) for Neolithic people of north Africa, and for the dolmen builders of that region, will be given in connection with archaeological data for north Africa.

From the small amount of evidence relating to fossil man in Africa, a few examples have been chosen to illustrate the need for intensive and coordinated research in geology, archaeology, and paleontology. The existing osteological evidence is far too slender to support any theory of the origin of man in Africa, and divergent views respecting the phylogeny of the skeletons and fragments so far discovered indicate that much methodical excavation has to be done before we can support a hypothesis for the origin and genetic relationship of the divergent physical types now inhabiting Africa. These brief notes have touched only the most startling discoveries, and the aim has been to avoid details of measurement and description which can be derived from the works quoted. A student must realize firstly the paucity of data, then the equivocal nature of the evidence. It would be misleading, however, to give the impression that the literature on this subject is small, for though discoveries of major importance are few, excavation is always in progress, and recent publications of Galloway, Drennan (1935), Wells (1935a, b), Schepers (1935), and Goodwin and Malan (1935), are typical of present research which may at any time lead to a discovery of primary importance.

Since the fossilized remains of man and his precursors are at present so inadequate as prehistorical evidence, we must turn to the facts of geology and archaeology in the hope of illuminating the dark pages of the Pleistocene.

STONE IMPLEMENTS

ARCHAEOLOGICAL TECHNIQUE

The successful work of Egyptologists, and the wide publicity given to their discoveries—often of a spectacular kind—has brought to archaeology a deep interest and romance. But success in the

reconstruction of Egyptian history has perhaps aroused too great optimism respecting possible application of the same technique in other parts of Africa.

Systematic excavating has been done in Algeria, Kenya, and south Africa, but owing to the remoteness of the stone-age periods concerned, and the absence of writing, the precision of the Egyptologist in giving not only sequences, but dates, can never be attained.

The work of a professional archaeologist is a skilled occupation which should never be confused with the efforts of treasure hunters who have ruined sites by indiscriminate digging for the sake of amusement and publicity. Scientific excavating is a slow, systematic process involving a survey of the ground by use of a theodolite and a plane-table. Not only should an archaeologist be a surveyor; he must in addition have a knowledge of geology and cartography. Trial pits and trenches are dug, and if an undisturbed stratification exists the excavator considers himself fortunate. Geological knowledge leads to an estimate of the relative ages of the deposits and the probable lapse of time required for the formation of each stratum, but the actual dating in terms of years is always hazardous.

An excavator is particularly careful to ascertain whether the deposits have been disturbed either by man or by natural agency, for, if the strata have been mixed, objects such as pottery, stone implements, and human and animal bones which now lie together may not have been contemporary. It may be that objects have been washed from one stratum to another, and, if this possibility is not recognized, confusion and incorrect inferences are inevitable.

Archaeology is becoming more and more the work of specialists. A zoologist or paleontologist may be asked to identify existing genera and species of wild or domesticated animals whose bones are discovered. Physical anthropologists report on human fossils, their sex, race, and antiquity. Potsherds, beads, and porcelain are artifacts requiring special study, while dendrochronology (estimation of the age of timber from consideration of the rings) is again a recent and special development of technique. A botanist is asked to identify grains and plants, which he is sometimes able to do by microscopic examination of fragments of food in pottery vessels. Among the specialists are chemists and metallurgists, whose analyses are sought. In recent years the airplane has been used in archaeological surveys of the Zimbabwe ruins and the prehistoric sites on the oasis of Kharga in the Libyan Desert. In Egyptology astronomical observa-

tions have been important in relation to chronology. Thus, almost every branch of science has made some contribution to archaeology.

The technique of excavating naturally depends on the nature of the site. An ancient cemetery may be divided into squares, each side of which measures twenty meters. Each of these large squares is then divided into five-meter squares, and plans of each square are drawn so that an excavator can record the exact position and level of each object that is found. Photographs of skeletons and other objects are made *in situ*, and the objects are numbered and stored, with samples of the matrix soil, in cabinets bearing the numbers of the squares and the level from which they were taken. The aim is to secure a permanent record of the site so that an accurate reconstruction on paper is possible after the excavations have been completed.

In this way an archaeologist often obtains a sequence of cultures. In the lowest layers he may have found stone implements and pottery of a particular type, and these may be associated with human and animal remains of a specific kind, which do not occur in quite the same form and frequency in upper layers. Perhaps the higher levels yield more elaborate stone implements and more ornate pottery, and it may be that examination of human bones indicates that a racial intrusion modified the physical type of those whose bones were discovered in the lower strata.

This digression concerning the method and function of archaeology is necessary for the understanding of prehistoric problems of Africa, but it should be understood that very seldom does an archaeologist have the opportunity of studying ideal stratifications, each of which contains all the kinds of evidence described above. Often he has to allow for distortion of strata and washing of objects from one level to another. More often than not, an excavator is handicapped in his theories by paucity of evidence, so that wide scope for conjecture is left, and hypotheses are difficult to establish or refute. Or conflict may exist between the geological, osteological, and archaeological testimony.

EUROPE

Some preliminary consideration of the European Pleistocene glaciations, fauna, types of implements, rock paintings, and remains of fossil man is necessary for understanding the terminology and discussions now current in similar African studies. Research workers in north Africa, Egypt, Kenya, and south Africa make comparative

studies of African and European stone implements for which the same terms, for example, Chellean, Acheulean, and Mousterian, are often used. In addition to this, stylistic affinities of European and African rock paintings and engravings are compared.

In our survey of the archaeology of Africa only the main themes and the most important bibliographical items will be mentioned, but these references will lead farther afield, for each book and article has its own bibliography. In addition to the individuals mentioned, the following sources are of importance: Ebert (1924-32) has edited a "Reallexikon der Vorgeschichte." Much periodical literature exists in *Revue Anthropologique*, *Revue Archéologique*, *Bulletins et Mémoires de la Société d'Anthropologie de Paris*, *L'Homme Préhistorique*, *Mémoires à l'Institut d'Égypte*, *Journal of Egyptian Archaeology*, and the publication of *L'Institut de Paléontologie Humaine*.

L'Anthropologie has an index volume (1932), containing a list of contributors to the subject of European and African archaeology. In the list of articles published by Abbé H. Breuil, and by Breuil in collaboration with Obermaier, Peyrony, and other archaeologists, a student will have a reliable guide to the most important prehistoric problems of Europe, and many for Africa. In the pages of the *South African Journal of Science*, *Transactions of the Royal Society of South Africa*, and *Proceedings of the Rhodesian Science Association*, are numerous archaeological reports which, taken alone, are inconclusive. Collated, as they must be in years to come, they will collectively explain many geological, archaeological, and osteological problems that are at present obscure. I feel sure, however, that a beginner will derive the greatest profit from a few textbooks before setting out on the task of summarizing periodical literature, which, for the main part, deals with specialized problems in a technical way.

For studying European data many textbooks are available. W. J. Sollas (1924) begins his work "Ancient Hunters" with a description of the great ice age in Europe and the way in which the climate of the whole world was affected by oscillations. Even on Mount Kenya near the equator the glaciers extended 5,400 feet lower than they do today. Similar evidence is afforded by other east African mountains, Ruwenzori and Kilimanjaro. The great ice age, and periodic changes of temperature during genial epochs between glaciations, profoundly affected flora, fauna, and the racial history of man. Sollas' study of the formation of glacial terraces (p. 22) by

denudation and deposition is one which is intimately connected with the chronological sequence of types of implements found in these regions. "The great ebb and flow of temperature was at least four times repeated; four times have the glaciers enlarged their bounds, and four times have they been driven back into their mountain home (the Alps)."

Useful notes on terminology are given (p. 118) when Sollas divides the Paleolithic series into two groups, an upper and a lower. In the Upper Paleolithic, starting from the most recent, are the Azilian, Magdalenian, Solutrean, and Aurignacian. Then, at the top of the Lower Paleolithic is the Mousterian, and below that the Acheulean and Chellean, all of which terms, together with several others, are constantly used in the terminology of African archaeology. A student should be familiar with forms of implements of these periods, and in this connection the British Museum "Guide to the Antiquities of the Stone Age" (Read, 1911, 1926) will be found serviceable, for in addition to European types many African paleoliths are sketched.

At the end of the Paleolithic periods occur the Azilian and Tardenoisian, which are transitional from the last period of the Paleolithic (Magdalenian) to the Neolithic, or age of polished stone, with accompanying evidence of pottery-making and domestication of animals.

Consideration of the river terraces of the Somme (Sollas) should not be neglected, for early in the study of African paleoliths the importance of such eroded terraces will be seen when comparing relative ages of paleoliths discovered in the Nile Valley, and along the Zambezi. Sollas' maps (1915, Figs. 74, 132) showing the geographical distribution of Mousterian and Aurignacian settlements in Europe are of importance in relation to the study of archaeology in north Africa.

Engravings of the mammoth, of reindeer, and of conventionalized human forms, should be carefully considered, since constant reference is made to these in literature bearing on African pictographs. But a more extensive and clearer series of European Paleolithic art forms is given by Burkitt (1921), and a volume, "The Art of the Cave Dweller," is devoted to that subject (G. Baldwin Brown, 1928); Cartailhac and Breuil (1904) were among the first to publish excellent illustrations of paintings and engravings from the walls of caves in the Pyrenees, and a large tome of such mural art has been published by H. A. del Rio in conjunction with H. Breuil and R. L. Sierra (1911).

Burkitt (1921, pp. 33-60) has an extremely useful chapter describing man in relation to geology in which he gives types of implements that enable archaeologists to subdivide major Paleolithic periods into upper, middle, and lower sections; such nomenclature will be found in descriptions of African stone implements. Burkitt discusses paleontological evidence of climatic conditions and tabulates the lists of animal bones associated with arctic, steppe, and warm conditions. Burkitt (p. 23) states that "the question of the periodicity of the Ice Age, that is, of the recurrence of glacial and inter-glacial periods, has been a matter of heated controversy. There are those, chief of whom are Dr. Albrecht Penck and Dr. Hugo Obermaier, who affirm that there were four glaciations. Others, including M. Boule, are content with three, whilst others again, especially geologists in the north, claim that there was only one glacial period. As has been suggested it may be merely a question of latitude, and further north where the mean annual temperature is obviously lower, the inter-glacial period would necessarily be shorter and cooler.—These four glaciations have been named after four little rivers that flow from the northern slopes of the Alps: Würm (the latest), Riss, Mindel, and Günz. Between each of these periods there were warmer inter-glacial periods; these were the Günz-Mindel between the Günz and the Mindel glaciations according to the Penckian scheme, then the Mindel-Riss between the Mindel and the Riss glaciations, and the Riss-Würm between the Riss and the Würm glaciations." Familiarity with these fundamentals of European geology is necessary for understanding the tentative schemes suggested by archaeologists working in east and south Africa.

In connection with this preparatory study MacCurdy (1924) will be of great service. In archaeology, as in other new sciences, terminology grows rapidly, and this difficulty MacCurdy has met by providing a glossary of archaeological and paleontological terms. It should be noted that the word Capsian (Vaufrey, 1933) is the equivalent in northern Africa of the Upper Paleolithic period, named from Capsa, the Latin for Gafsa (Tunis). The word Levalloisean is sometimes used in African archaeology; the adjective is derived from European terminology used in describing a flint implement occurring in certain late Acheulean and early Mousterian deposits. Maglemosean is the Scandinavian equivalent of the Azilian.

MacCurdy (1924, vol. 1, p. 27) provides a table of the "Chronology of Prehistory," which is more detailed than the tables previ-



FIG. 21. African paleoliths. Scale about 7:12.

ously mentioned. Thus he divides the Neolithic, from more recent times backward, into Carnacian, Robenhausian, Campignian, Maglemosean, and Azilian-Tardenoisian. An account of the ice age and the types of Paleolithic implements found in Europe is followed by a well-illustrated section on Paleolithic art, and a summary is given of the discoveries of fossil man in Europe.

NORTH AFRICA

With this European terminology and an outline of European geological and archaeological data in mind, we may now turn to the systematic archaeology of north, east, and south Africa. Then we can consider the less developed investigations in west and central Africa, where surface finds, and not excavations, are the chief sources of archaeological information. Our studies may be centered about stone implements, rock paintings and engravings, and megalithic monuments. For terminology of north African archaeology see Leakey's comments (1936a, pp. 99-110).

A useful starting point for the study of paleoliths of north Africa is C. G. Seligman's article (1921a, with bibliography) in which he describes his attempt "to obtain definite stratigraphic evidence as to the antiquity of implements exhibiting a technique which in Europe would be classed as Chellean, Acheulean or Mousterian." The sites visited were Abydos, Thebes, Tel-el-Amarna, Meir, and the Wady Sheikh.

Seligman states (p. 117), "The implements themselves may be classified as follows, the 'period' given in the second column being that to which they would be assigned if they were of European origin. The hand-axe with borer point, crescents, and the tortoise point have no European parallels." Seligman's list includes hand-axes of Chellean and Acheulean form and finely worked ovates of Acheulean type; of Mousterian pattern are points, side-scrapers, borers, concave scrapers, tanged spear- and arrowheads. The forms designated Mousterian are not specially typical of the Mousterian but are so grouped because of the localities in which they were found, stratigraphy, and patination. As Capsian or transitional to that type are mentioned concave end-scrapers, nose end-scrapers, and end-borers.

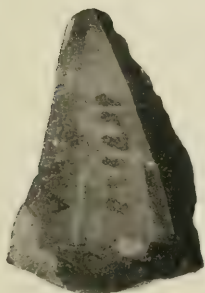
"From a morphological standpoint the River-drift types are unmistakable. The Mousterian types, as far as the points, scrapers, and borers go, are equally typical and can be paralleled precisely by west European forms. A certain number of specimens cannot



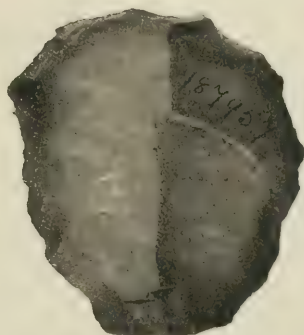
a



b



c



d



e



f



g



h



i



j

FIG. 22. African stone implements. Scale about 2:3.

readily be referred to either a Chelleo-Acheulean or Mousterian technique. If the west European forms be taken as standards, some of these would be regarded as Aurignacian of the coarser type." Seligman is inclined to regard some Egyptian forms as highly developed Mousterian types that have been modified by Capsian influences from North Africa.

The geological argument to show that some of Seligman's material is Pleistocene and Paleolithic is given (p. 136). In conclusion (p. 142) he states that, although the majority of the implements, River-drift, Mousterian, and Capsian, show a patina due to long exposure on the desert, there are implements of a highly developed Mousterian type which do not show the Paleolithic patina. These are found *in situ* in undisturbed gravels geologically of Pleistocene age. Some implements of Mousterian type and a few of River-drift and Capsian pattern are not patinated. They resemble specimens found in undisturbed gravels and appear to have been weathered out of the cliff in geologically recent time.

The illustrations of paleoliths of the eastern Egyptian desert shown by Sterns (1917a) are useful for comparison with the types discussed by Seligman. Sterns' article is, however, mainly a catalogue with notes on patination. After discussing the resemblance of Egyptian types to such European forms as the Chellean, Acheulean, and Mousterian, he remarks that "type alone is no safe criterion for the correlation of specimens from widely separated areas. It has been clearly demonstrated that similarity of form does not necessarily mean proximity in time." When making comparative study of Paleolithic implements from Europe with similar types from north, east, and south Africa, typological resemblances alone will not suffice to establish contemporaneous development of similar industries in different areas. An archaeologist should be able to show that the fossils associated with each type are of the same period. In each of the areas under comparison the same types of implements should occur in the same sequence, and evidence of this kind ought to be obtained from the intervening area. Then the spread of a succession of cultures over the whole area, probably by human migrations, becomes a tenable hypothesis.

In Egypt at Kharga, stratigraphy of Paleolithic discoveries is a subject to which Miss Caton-Thompson and Miss E. W. Gardner have contributed. Their report of 1933 refers to discovery of Neolithic implements of Faiyum type between the Kharga Oasis and the Nile Valley, and the oasis itself offered an opportunity

of studying the stratigraphical succession of stone-age industries. A large number of specimens of a specialized Mousterian industry was obtained. Caton-Thompson's report (1932) examines the geological evidence and shows a sequence *in situ* of Acheulean, Levalloisean, Middle Paleolithic (Pre-Sebilian), Atérian, Capso-Tardenoisian, and Neolithic. The report of 1933 showed that the third season materially enlarged the evidence for greater vertical and horizontal distribution of the types of artifacts described in the report of 1932.

When studying the geology of Egypt and the types of implements in relation to stratigraphy, three comprehensive reports (1929, 1933, 1934) of the Oriental Institute, University of Chicago, are available under the authorship of K. S. Sandford, and of Sandford and Arkell in collaboration.

In his foreword to the first volume (1929) Professor James H. Breasted emphasizes the need for continued geological work in the Nile Valley and points out that without the cooperation of geologists archaeology can make no substantial advance. The objects of the expeditions, therefore, were "to search the geological formations for imbedded human handiwork or other traces which would date in geological terms the earliest human occupations of the Nile Valley; and to follow such traces as far down toward the historic epoch as possible; and second, to investigate the geological background of prehistoric man in northeastern Africa, so that all natural formations containing human artifacts might be geologically dated and their genetic place in the geological sequence determined within as narrow limits as possible."

There is no evidence of Pliocene man in Egypt but there is ample stratigraphical testimony of a succession of stone-age cultures throughout the Pleistocene. In this period, when rainfall was copious, Paleolithic man hunted along the banks of the Nile and over the surrounding hills and plateaus. Instead of dry wadies, there existed plentiful streams and the landscape was covered with vegetation.

Of great interest to archaeologists are the terraces showing where the Nile flowed above its present level, and in many of these terraces, bordering both the main river and its one-time tributaries, are the artifacts of Pleistocene man. The succession of implements in the various terraces is briefly summarized (Sandford and Arkell, 1933, p. 86) and a map (p. xvii) showing localities of investigation is given.

In the 100-foot terrace in Nubia and Upper Egypt, Chellean and Chellean-Acheulean implements have been found, but not in the

older beds, and again in the 50-foot terrace these forms occur. "The Mousterian technique reached an exceedingly high standard at the time of the 10-foot terrace, and the beautiful workmanship seen in the implements here figured (Plate XXXII) represents the typical Mousterian of Upper Egypt at its best."

During the following period of silt accumulation, the previous high standard was not maintained, and almost imperceptibly the flakes became thicker and lost their fine edges and retouch. The shape also changed from a broad-based leaf to a rectangle or a point. To these changes in Mousterian forms the term Sebilian has been applied (Sandford and Arkell, 1933, Plate XLII; Vignard, 1923).

"Distinct from the Lower or Middle Sebilian is the Upper Sebilian, which has essentially neanthropic character of workmanship, and suggests the introduction into this part of the Nile Valley of Capsian or Capsian-like influences from north Africa or elsewhere. The apparent hiatus between Middle and Upper Sebilian industries, reflected in their geological positions, suggests that some event of considerable importance to humanity took place at this time. At present there is insufficient evidence to judge what it was, but we suspect that the growth of deserts here and elsewhere had set in motion those migrations which continue at the present day among the desert population."

In the third report, which is devoted to wider archaeological and geological surveys and a correlation of the results, the Lower Paleolithic stage of the Pleistocene is described (Sandford, 1934, pp. 53-65), then the Middle Paleolithic (pp. 66-80) and finally the transition to Late Paleolithic and Neolithic times. Bibliographically this volume is of great service in a survey of the contributions of A. Pitt-Rivers, C. G. Seligman, W. M. F. Petrie, J. de Morgan, E. Vignard, G. W. Murray, Miss E. W. Gardner, Miss G. Caton-Thompson, H. Breuil, and Bovier-Lapierre. Seligman (1921a) is regarded by Sandford as the originator of modern work on prehistoric archaeology and stratigraphy in the Nile Valley, though half a century ago A. Pitt-Rivers (1881) found implements *in situ* at Thebes in gravels now recognized as of Mousterian age.

With regard to the transition from Middle to Late Paleolithic times Sandford states (1934, p. 81) that Egyptian archaeology is in need of a term to describe the cultures that followed the Mousterian, or Middle Paleolithic, industry. "Upper Paleolithic" suggests the European, Aurignacian, Solutrean, and Magdalenian, none of which seems to be normally represented in Egypt, though Vignard has dis-

covered an industry which he considers to have Aurignacian affinities, and he associates the Upper Sebilian with the Tardenoisian industry. Sandford decides on using the term "Late" Paleolithic as corresponding to "Upper" in Europe, and to late Mousterian, Mousterio-Capsian, and Capsian in north Africa.

Sandford (1934, p. 81) refers to a gradation of implements which, in their earlier stages, may be grouped together as "Late Mousterian and Early Sebilian," and this group merges into Middle Sebilian. The term Sebilian is derived from the village of Sebil on the Kom Ombo plain. The typology of the Upper Sebilian artifacts in flint and other hard rock is dominantly microlithic, with affinities to the Capsian culture.

With regard to human bones associated with implements from Kau and Kom Ombo, Sandford (1934, p. 86) states that examination by Arthur Keith, D. E. Derry, and G. Elliot Smith indicates that the people whose bones were discovered were "more akin to the predynastic Egyptian than to any other race of which we have full knowledge."

A summary of the stratigraphy of archaeological discoveries, which is given in tabular form (Sandford, 1934, p. 126), begins with primitive implements of Chellean and Chelleo-Acheulean types in the 100-foot terrace, and traces the refinement of these forms through the 50-foot and 30-foot terrace to the Egyptian Mousterian types of the 10- to 15-foot terrace of Upper Egypt and the 25-foot gravels of Middle Egypt. This Mousterian culture is then traced out in the silts and degradation gravels of Upper and Middle Egypt, through Lower, Middle, and Upper Sebilian, to the Neolithic period.

For study of the Neolithic period in Egypt the following works are of importance: E. W. Gardner and G. Caton-Thompson (1926, 1933); Caton-Thompson (1927); Brunton and Caton-Thompson (1928); Reisner (1923); and (in German), Junker, who summarizes a considerable amount of periodical literature relating to Neolithic Egypt.

G. Caton-Thompson (1926, p. 315), after completion of her inventory of the Faiyum culture, quotes the belief of Flinders Petrie that in studying the Faiyum culture we are dealing with the artifacts of a people of Solutrean kinship and northeastern origin. Petrie postulates a trek of Solutrean people about 15,000 B.C. from perhaps the region of the Caucasus into the Nile Valley, bringing their advanced civilization with them. He believes the Faiyum and Badarian people are offshoots of these Solutreans. Miss Caton-

Thompson regards the Faiyum culture as a late stage of Neolithic. "The Badarian is still more advanced; he makes beautiful fine pottery, uses copper, and employs glazes." The Badarians were of ordinary predynastic type with a slight Negroid admixture. Miss Caton-Thompson examines the Solutrean theory (pp. 316-318), but does not find support in typology, in distribution of the types of implements, or in geological stratification. The flint forms of the Faiyum industry extend to Siwa Oasis and to Kharga Oasis and "there is little doubt that when these oases are examined a similar general culture will be revealed." Caton-Thompson is certain (p. 322) that the Badarian, Faiyum, and Nubian groups have a common origin, and that this origin will prove to be an autochthonous proto-Libyan element whose ancestral home is yet to be discovered (for Neolithic Egyptian implements see Fig. 23, *a, h-k*).

With the manufacture of pottery in Egypt and the association of sherds with Neolithic implements, a new branch of archaeological work opens up. An excellent approach to ceramics is given by Frankfort (1924) in a well-illustrated discussion of "Mesopotamia, Syria, and Egypt, and Their Earliest Interrelations," for which a large bibliography is provided. This work is indispensable for students who wish to begin their archaeological studies with the Neolithic period in north Africa, and such studies lead directly into the dynastic and datable period, circa 4000 B.C.

With regard to Lower Paleolithic man in the region of what is now Morocco and Algeria, there is abundant evidence. Siret (1925) gives many illustrations of typical forms of *coup de poing* from Morocco, and of side-scrapers and end-scrapers from the same region. Notes on stratigraphy are wanting, and the objects appear to be surface finds that have weathered out from their original gravels.

Further information on Paleolithic north Africa is given by Arambourg (1934) and by Zoli (1935). The two journals, *Mémoire, Archives de l'Institut de Paléontologie Humaine*, and *Bollettino della Reale Società Geografica Italiana*, in which these articles respectively occur, are two valuable sources of information. The latter often supplies data about a part of north Africa where research is now conducted by Italians.

When, however, we approach the study of Middle and Upper Paleolithic discoveries in northwest Africa there is abundant evidence of stratification and a succession of types; these are related at least morphologically to European Mousterian and Aurignacian patterns. Burkitt (1921, p. 106) says: "Nor is the profound alteration in



FIG. 23. African implements of stone and bone. Scale about 2:3.

industries the only change that we find when we come to Upper Paleolithic times. Man himself has changed; we have to do with a new race far more elevated in the scale." Burkitt agrees with the hypothesis that when Neanderthal man disappeared in Europe his place was taken by a true *Homo sapiens*, the Cro-Magnon race, which probably came from north Africa.

Of the Aurignacian (Capsian, or Getulian) stone culture in north Africa, Vaufrey (1933) has recently written a well-illustrated article showing many types of Capsian points, and he has provided a map on which are plotted stations of Upper Paleolithic culture near the north African littoral from 10° W. Long. to 10° E. Long. In summarizing the data relating to the Capsian industry, Vaufrey (p. 480) distinguishes three chronological groups: namely, (1) Capsien typique; (2) Intergétulio-néolithique and Capsien supérieur; and (3) Néolithique de tradition capsienne. For all of these types, he provides numerous illustrations. The third stage shows a development of microliths, and the intrusion of arrow points of Saharan type is to be noted. To the third phase of the Capsian also belong polished axes and pottery sherds (Fig. 23, *b, c, l-n*).

Despite the difference of types, the industries of the Capsian form a homogeneous block, the climax of which is reached in the fine microlithic points of trapezoidal and triangular form. From the typological point of view, the Capsian appears to Vaufrey as an industry of Mesolithic or perhaps final African Paleolithic character, and he deprecates any attempt to make this Capsian industry the ancestor of the Aurignacian in Europe, to which culture the Capsian is probably junior.

According to Vaufrey (1933, p. 481), the geological evidence is not favorable to views demanding antiquity for the Capsian. "Where should we search for ancestral forms of the Capsian?" he asks, and states that typologically certain Sebilian forms from Kom Ombo in Egypt may be the prototypes. But though such affiliations of types exist in Tunisia and Kom Ombo, all the facts are in favor of a late introduction of this Upper Paleolithic industry into Africa, and the archaeological data are unfavorable to a hypothesis that describes Africa as the home of *Homo sapiens*.

A brief summary of features of the Capsian culture may be obtained from Menghin (1931, pp. 177-188) who marks out four primary divisions: (1) A Mediterranean division that flourished in north Africa when the climate was moist and game was plentiful; (2) a European Capsian or Tardenoisian; (3) an east African; and

(4) a south African Capsian culture. Later, in dealing with the archaeological literature for east and south Africa, we shall be better able to judge the legitimacy of applying the term Capsian so widely.

Menghin (1931, p. 48) recognizes two main divisions of the Neolithic age in north Africa. The older of these cultures is found in caves of Oran where Capsian implements occur together with arrow points of Neolithic form and crude pottery. In the younger division of the north African "Grotten Kultur," the Capsian type of implement disappears and improved sherds of pottery are found. These Neolithic cultures exist in the southern and central parts of the western Sahara, where stone implements indicate the spread of a hunting culture from the north, and an agricultural culture from the south. The former contributed arrowheads and javelin points, while the latter culture gave axes and grinding stones.

In pursuing further these north African studies, Collie (1928) will be of service in describing the European Aurignacian period and its alleged African parallels. The report deals chiefly with European geology, archaeology, and fossil man, but references to north African problems are numerous. Changes of climate in north Africa are discussed (p. 16), and the chapter on fauna of the Aurignacian age is a simple summary of paleontological facts showing that Aurignacian man had access to abundant animal life. Mechta man is described (p. 18) and Collie describes the first bearers of Aurignacian culture in Africa as a breed possibly of Mousterian and Negroid or some other parentage. Of the male skeleton from the Mechta site (Constantine, Algeria), Collie says, "The skull has very strongly developed and prominent supraorbital ridges which are not individualized but extend as a bar across the forehead. The head is dolichocephalic but not platycephalic; viewed from above the skull is pentagonal. The nose is flat, the eye orbits small. In respect to the brow ridges both the male and female skulls are Neanderthaloid, but the total resemblance is not close—yet on the other hand these people are not Cro-Magnons. They are an intermediate group and it seems best to classify them apart under the title of Mechta man or the Mechta race."

Collie recognizes the need for caution in making any final pronouncement on fossilized human bones from Mechta, but (p. 29) he thinks that several types of people moved over the north African plateau in the Aurignacian period, but none of them were of the true Cro-Magnon type that is associated with the European Aurig-

nacian culture. Collie, supporting his views with testimony from Breuil and Obermaier, leans toward an African origin of the European Aurignacian culture and is inclined to agree that a pre-Aurignacian, or pre-Capsian, race seems to have come from Africa. According to hypothesis this race, which was not Neanderthaloid but approached the *Homo sapiens* type, entered southern Spain during the Chellean-Mousterian ages bearing a new-stone culture, which combined with the stone culture then in Europe to produce a culture that we now call Aurignacian. But caution is again necessary, for we have already seen (Vaufrey, 1933) a discussion of the Capsian cultures and a reluctance to accept them as a parental form of the European Aurignacian. Still less did Vaufrey favor the idea that north Africa had given birth to a new *Homo sapiens*. Collie continues to discuss the various views that have been held respecting types of Cro-Magnon men in Europe and the possibility that the types survive, with admixtures, at the present day (pp. 30-35).

Information respecting the remains of prehistoric man in north Africa has been summarized by Bertholon and Chantre (1912, vol. 1, pp. 234-243), who find that Neolithic people in the region of Gafsa and Tebessa had small bones and a feeble muscular development. They were of medium height, long-headed, and mesorrhine. The orbits were microseme, the face was short and broad with a tendency to prognathism, and the cranial sutures were simple. Two main types are distinguishable: (1) a mesaticcephalic Negroid type; and (2) a short, dolichocephalic, mesorrhine type, with a large glabella and a Neanderthaloid aspect.

The fossil skull and skeleton from Asselar, 220 miles northeast of Timbuktu, has been discussed by Leakey (1936a, p. 177), who summarizes the evidence of Boyle and Vallois. Probably the skeleton is a representative of the ancestral Negro stock of central Africa.

Hooton (1925, pp. 192-207) discusses the relation of the Guanches and other ancient inhabitants of the Canary Islands to the so-called "Race of Cro-Magnon," and supports a belief in the hybrid character of the Cro-Magnons. In his introduction to anthropometric research on the Cap-Blanc skeleton of the Upper Paleolithic, G. von Bonin (1935) surveys the literature bearing on physical characters of the Upper Paleolithic populations of Europe. He asks (p. 18), "Are they really racially homogeneous or do they represent several distinct races? Can they be traced in subsequent or perhaps even in modern races?" His answers to these questions (p. 51) are non-committal, but in view of his personal research and that of colleagues

the opinion is offered that "there is no statistical reason to regard the Upper Paleolithic as racially mixed." In answer to the second question, there is the possibility of an occasional manifestation of Cro-Magnon characters among modern populations. "But such observations might be explained equally well on another ground but that of atavism."

Since the Canary Islands may be regarded as the most westerly extension of north Africa, there is reason to search there for somatological, linguistic, and cultural evidence of north African migrations that traveled westward to the utmost limit. The nearest of the islands is about sixty miles from the African coast. Hooton (1925, pp. 298-303) has given a "Tentative Reconstruction of the Prehistory of the Canary Islands." He believes that the first settlement of the archipelago probably occurred in the Neolithic period with the arrival of dolichocephalic, mesorrhine, short-statured brunets of Mediterranean race with some Negroid mixture. "These settlers probably came from the mainland of Africa south of Morocco or from the region of Wadi Draa. They brought with them domesticated sheep and goats, a chipped-stone and bone industry, but they probably had no knowledge of cultivated cereals and did not make pottery. They may have spoken some proto-Berber language."

The second invaders were brunet whites with some Mongoloid features whose center of distribution in north Africa was the Gulf of Gabes and eastern Tunisia. "They introduced into the Canary Islands the cultivation of barley, the use of crude and usually unornamented pottery, the sling and pellet. This brachycephalic group survived in its purest cultural form in Gomera—these people mixed with the Mediterranean-Negroid carriers of the Archaic culture, in Gran Canaria, Teneriffe, and Gomera."

Almost contemporary in arrival with the Alpine-Mongoloids were a tall, blond, dolichocephalic people, with long faces and narrow noses. Before arrival in the Canary Islands, these invaders had a strong admixture of the Alpine-Mongoloid type. These third invaders, who came from the Atlas ranges of Morocco and Algeria, formed a ruling caste. They probably spoke an early Libyan language.

Mixture of these third arrivals with the broad-faced brachycephals of the second incursion produced a hybrid type with a long head and a broad face, often of large stature and probably of light pigmentation, with brown, red, or blond hair. "This is the so-called Cro-Magnon type."

A fourth invasion affected chiefly the eastern islands, and to existing peoples were added dolichocephalic, leptorrhine brunets of the Mediterranean type. The people of the fourth invasion introduced much better and more elaborate ceramic forms distinguished by decoration in color. The intruders understood the cultivation of wheat, and they used pottery stamps for making designs on their bodies.

A brief survey of the region of north Africa from the Canary Islands to Egypt has indicated that a sequence of stone-age periods can be traced backward from the Neolithic through culture phases that in broad outline resemble the Mousterian, Acheulean, and Chellean phases of Europe. From study of implements in the Nile Valley terraces, the Paleolithic age is known to recede far into the Pleistocene. Yet cultural changes did not always merge one into another, and in the Nile Delta region there is evidence of a new-stone-age culture imposed from without by people of unknown origin. The Canary Islands also afford an illustration of superimposed cultures contributed by a succession of peoples of different physical types. These immigrants traveled westward from the Atlas region, and study of skeletal remains in the western terminus of their migration indicates the presence of four main somatic types with their derivatives produced by mixture. Concerning the origin of these types, their exact line of migration, and their phylogenetic relationship to other African and European types, great uncertainty exists, and although a sequence of cultures is established, we have only the vaguest knowledge of the actual time intervals involved. Yet the evidence from north Africa indicates a definite advance in archaeological research, and we may say that at least the foundations of a sound technique have been established. A table of Leakey (1936a, p. 114) is a useful summary of north African stone-age sequences.

EAST AFRICA

In appraising the present position of archaeological work in east Africa, reference should first be made to Leakey (1931, pp. 1-4), who summarizes the archaeological data for Kenya, Uganda, and Tanganyika before the year 1926, and despite recent criticisms this is still our best source of information. Before that date no detailed archaeological investigations had been carried out in Kenya, but surface implements had been found and some stone tools had been discovered *in situ*. Distinct phases of culture had been recognized, but sequences had not been established. To this period of study belong the discoveries of Seton-Karr (1909), who found at Jalelo,

about ninety miles northwest of Berbera in Somaliland, a site where stone implements were manufactured. The collection included heavy Paleolithic forms, *coup de poing* of quartzite and chert from high ground, also Neolithic lanceheads, arrowheads, and scrapers from lower ground where flint occurred. For Paleolithic types of implements, see Fig. 21.

But Leakey states that, despite the paucity of archaeological data from east Africa before 1926, E. J. Wayland had established a scientific basis of research in Uganda. Wayland's research had included the collection of stone implements of various periods and cultures, and he had produced evidence of three main culture groups which he called Kafuan, Sangoan, and Magosian. Wayland had anticipated present research by advancing the idea of a glacial-pluvial correlation as a foundation for studying the sequence of east African stone-age cultures.

These preliminary researches led to the formation of an East African Archaeological Expedition, which in 1926 started work in Kenya, where investigations were concentrated on the lake basins of Nakuru, Elmenteita, and Naivasha. Here Leakey found evidence of three pluvial periods, separated from each other by arid periods. The vision of archaeological research was widened, and the objectives included not only the establishment of cultural, geological, climatic, and paleontological sequence, but the correlation of these with corresponding changes and phenomena in Europe, north Africa, and south Africa.

Leakey (1931, p. 38) gives a list of terms applied to culture sequences in Kenya. Beginning with the most recent, these are: Njoroan, Gumban B (Nakuru culture), Gumban A, Kenya Wilton, Elmenteitan, Kenya Late Aurignacian and Kenya Still Bay (contemporary), Kenya Aurignacian and Kenya Mousterian (contemporary), Nanyukian, Kenya Acheulean, and Kenya Chellean. Leakey then describes the typology of the cultures and the geological and paleontological evidence on which the arrangement is based. A table giving the hypothetical synchronizing of culture phases with wet and dry climatic phases is given by Leakey (1931, p. 33). A more detailed tabulation is offered by the same author (1934d, p. 146), and a revised table (1935, p. 6). The latest table given by Leakey (1936a, p. 75) shows an evolution of types of implements from the Kafuan or primitive pebble culture to the Njoroan or Neolithic.

This later tabulation works upward from the extremely simple Kafuan culture through the Oldowan to Chellean I, all of which are

Lower Pleistocene, corresponding to the European Chellean and pre-Chellean periods. On the left of the table is an indication of climatic changes in Europe during the advance from Kafuan to Chellean I. The scheme further shows that during the Middle Pleistocene a cultural advance was made from Chellean II to Acheulean V in east Africa, corresponding with similar culture periods in Europe during the Mindel and Riss glaciations.

At the bottom of the Upper Pleistocene, the scheme shows Acheulean VI, Nanyukian, and other phases leading up through Basal Aurignacian to Aurignacian and Levalloisian. In the upper part of the Upper Pleistocene are the Upper Aurignacian and Kenya Still Bay cultures. The Elmenteitan and Magosian cultures are the uppermost of the Upper Pleistocene cultures. The Elmenteitan has replaced the Kenya Aurignacian and the Kenya Still Bay has changed to the Magosian. The climatic changes during this cultural evolution in Kenya have been described by Brooks (Leakey, 1931, Appendix B), who shows a parallelism between glacial periods in Europe and pluvial periods in east Africa. The most recent pluvial period, the Nakuran, he dates 850 B.C.; before this came a dry period. The Makalian pluvial is thought to have occurred from 10,000 to 2500 B.C., and before the Makalian came a dry period. The Upper Gamblian pluvial of east Africa possibly synchronized with the Würm glacial period in Europe, and the Lower Gamblian was contemporary with the Riss Glacial. A dry period in east Africa preceding the Lower Gamblian is correlated with the Mindel-Riss inter-glacial of Europe. And the most ancient pluvial, the Kamasian of east Africa, was contemporary with the Mindel glacial and the Günz glacial periods of Europe. Brooks (1931, Appendix B) believes that this tentative scheme of synchrony has a high degree of probability.

For continuing the study of archaeology, geology, and climatic change in east Africa, the contributions of E. J. Wayland (1930, 1934), of Wayland and M. C. Burkitt (1932), and of O'Brien (1936) are of primary importance. Taking these in chronological order, Wayland (1930, p. 475) states that the facts, as we know them in Uganda, favor belief in the occurrence of two pluvial periods in the Pleistocene. So far as dating goes, these appear to correspond with a pair of recognized glacial periods; Pluvial 1 was to some extent contemporaneous with the Günz and Mindel glaciations, while Pluvial 2 was approximately contemporaneous with the Riss and Würm glaciations. The pluvials were separated by a dry interpluvial period—all the evidence favors the view that these two pluvial periods

were true pluvials because they occurred at the same time over wide areas of the earth's surface.

In continuing this inquiry, Wayland (1934) gives a historical survey of archaeological and geological research in Uganda, and he provides a table giving further geological and climatic details of the pluvial periods and cultural phases in Uganda. A summary of archaeological types and sequences (p. 351) indicates that the pebble culture, which had possibly started in Late Pliocene time, developed slowly. "During Part I of the second pluvial period, though not at the beginning of it, Man began to use lumps of quartzite from which to fashion his tools; he soon became expert in cleaving his tough rock, and before long enormous flakes were being detached. Pebbles were not completely abandoned, however, and for some purposes they are used to this day. In Karamoja (N. E. Uganda), for example, the blacksmiths use hammer stones; and boulders, brought to an edge, provide a sort of anvil for shaping spears."

Following the Kafuan "pebble" culture came a pre-Chellean phase of stone artifacts, some of which are Clactonian in technique. "The Chelleo-Acheulean and Sangoan cultures developed side by side, the former being a culture of the valleys and the latter of the hills." Present information suggests that the Sangoan developed into the Mousterian culture. The Homa evidence, which cannot be accepted as final, suggests that the local Mousterian developed into the Still Bay culture.

"The Aurignacian appears to have been a foreign influence which came, presumably, from the north, or more likely north-east, for in that direction Aurignacian sites are commonest—indeed, they would seem to be decidedly rare elsewhere in Uganda. From the Aurignacian arose microlithic industries such as the Magosian and Wilton. In the Magosian a dying Still Bay influence is apparent." In Uganda no pottery is definitely known until the Wilton culture appears. But Leakey (1931, p. 103) states: "The question of the existence of pottery in Palaeolithic times has always been a vexed one, but there can be no doubt whatever of the presence of two pieces of pottery in the upper Kenya Aurignacian deposits in Gamble's Cave II." A student should, however, be very cautious in making deductions from this small amount of evidence.

The Magosian culture in Uganda has formed the subject of an article by Wayland and Burkitt (1932), who describe and illustrate these artifacts in detail, classifying them according to the levels at

which they were found and commenting on their resemblance to the products of the Wilton industry in south Africa.

A valuable résumé of archaeological work in Uganda has been prepared by O'Brien (1936). He begins with the oldest culture, namely, the Kafuan; this he describes as a "pebble" culture which in every particular is "the most primitive recognizable in Africa," and definitely prior to the Oldowan of Leakey. In the Kafuan industry, the flaking of the pebbles was merely a reduction of the natural edges to produce small cutting and chopping tools. These Kafuan tools mainly occur in terrace gravels deposited by rivers of the first pluvial phase. Younger gravels yield evidence of early Oldowan types, the type tool of the true Oldowan being a crude chopper.

Following a European nomenclature, O'Brien describes the Cromerian culture characterized by the striking of large, crude flakes. The evidence implies that this Uganda Cromerian culture belongs to the interpluvial phase, and that the culture continued into Pluvial II (Kamasian) times, as part of the Sangoan mixture of types. "The true Chellean does not occur widely in Uganda. There appear to be several stages, however, which seem to conform to the normal succession as seen in other parts of Africa." A worker of the Chellean culture carried out his chipping with the intention of producing two edges and perhaps a point. This technique is in contrast to the earlier single-edged chipping of the Kafuan-Oldowan cultures. Definite stages from the Chellean to the Acheulean have not yet been discovered in Uganda.

For many years the Tumbian culture has been known in both the French and the Belgian Congo, and it is found also in Uganda. At present we do not know whether the Tumbian development was a lateral branch of the Acheulean, or whether the Acheulean at an advanced stage borrowed features of a Tumbian culture already existing in the Congo.

The Levalloisian culture appears between Lower Acheulean and Upper Acheulean, and finally develops into the Still Bay phase. The important features of the Levalloisian culture are its longevity and wide distribution over Uganda.

Possibly the lack of a Uganda Aurignacian culture in any way comparable to the Aurignacian of Kenya may be due to the rarity of suitable material. The Magosian culture is Mesolithic. The Neolithic culture of Uganda is a "widespread industry of microlithic type, without polished tools, occurring abundantly in caves and

shelters, and in the open. The tools include lunates, minute tapering backed-blades, and small scrapers. Pottery is always associated, at any rate in home sites, and is always well-made." The Neolithic industry is late, perhaps only a few centuries old. For a criticism of O'Brien, see Wayland (1937).

SOUTH AFRICA

The history of archaeological work in south Africa is in outline a repetition of the development of technique in the north and east of the continent. The literature may be conveniently grouped in four divisions: (1) discoveries of stone implements, chiefly surface finds of the period 1870-90; (2) early attempts to study typology, sequences of patterns, and stratification; (3) specialized articles dealing exclusively with one small site or one type of implement; and (4) recent articles and books summarizing the foregoing contributions, welding the information, and advancing theories respecting the relationship of stone-age cultures of north, east, and south Africa.

J. Sanderson (1878) called attention to current tales of the Kafirs relating to a stone-using people who preceded them, and he notes the continued use of stone as weights for digging-sticks, hammers, and grinders. Sanderson states that the first scientific interest in stone implements from Natal may be dated about 1871. The implements described by Sanderson are referred to as knives for cutting skins, scrapers for preparing skins, piercers of quartz for drilling holes, molding tools for making pottery, and chisels for cutting wood. Some of the implements were found near Durban from one to four feet below the surface, but on the evidence of W. D. Gooch (quoted by Sanderson) some of these forms were shown to have a very wide distribution.

A few years after the publication of Sanderson's article, Gooch (1881) placed the study of stone implements on a scientific basis by taking cognizance of types of implements, their topographical distribution, the character of the deposits in which they were found, and the nature of the material from which they were made. The topographical scheme of Gooch included the division of south Africa into districts "which the apparent grouping of types or forms of the implements found in them seemed to suggest." Various Paleolithic forms are illustrated, and the article concludes with a table giving a description of implements, geological position, and district where found.

To this inaugural period also belong the contributions of Feilden (1883), Penning (1886), and Leith, Frames, and Penning, all of

whom wrote in 1898. Leith deals with cave deposits, shell mounds, and coarse stone implements, among which are eoliths traceable to high gravels. Leith sees a close typological correspondence between stone implements from the chalk of Kent and those from plateau gravels in the Transvaal. T. Rupert Jones (1899) described thirteen large paleoliths from Swaziland. He remarks on the impossibility of suggesting a chronology for these implements, for the relative ages of the gravels in which they were found are undetermined. It was known, however, that the implements were found in gravel terraces of different ages cut out by the River Embabaa. The illustrations show a large ovate form and two long, narrow specimens.

Kingston (1900) explored some caves on the coast between Mossel Bay and Port Elizabeth. The excavation was not thorough, but the author states that "we arrived, by a series of soundings in various places, at a very fair idea of the nature of the deposits and even of the manner of life of the former inhabitants." The objects found included long, narrow implements of flaked quartzite, arrowheads of stone, a bone scoop, a shell ornament, pounders, and heavy perforated stones. The caves had been occupied at different levels by Strand-loopers.

Some stone implements found in the valley of the Zambezi were described by Lamplugh (1906) and by Balfour in the same year. The implements were lying on the bottom of the broad outer valley, and their occurrence in the high gravels assigns to them a great antiquity. With one exception the implements were discovered at the surface, and a geological section (p. 164) is given to show the position of the artifact which was found *in situ* at a depth of five feet. Lamplugh concludes that most of the implements, which are rude paleoliths, were left in their present position when the Zambezi flowed in the higher valley for some distance below the present falls.

Balfour (1906) describes a Paleolithic type of implement from the Victoria Falls region. In type he compares this implement to those of the River-drift (Chellean) period in northeast Europe. The implement, though found on a road which was under construction, was traceable in origin to a sand pit near-by. The sand pit was in an ancient deposit of coarse gravels, laid when the river was running at a height perhaps 15 to 20 feet above its present level at this point. The site, patination, and abraded surface of the implement point to great antiquity, and the resemblance in type to some European River-drift implements led Balfour to remark that "the combined evidence seems to point strongly to a strict correspondence of con-

ditions in the two widely separated regions, to a like condition of culture, in both cases of great antiquity. Whether it is legitimate to assign to these Zambezi implements as remote a date as that given on geological evidence to the implements of our own River-drift must be determined by further examination of the older Zambezi deposits." (For south African Paleoliths, see Fig. 22, *b-d*.)

The publication of Péringuey's (1911) dissertation on the stone ages of south Africa marked the beginning of a really intensive study of south African archaeology. Moreover, there is a definite expansion of speculation respecting analogies of types from south Africa and Europe. Referring to coarse, heavy paleoliths, Péringuey (p. 8) says of the south African forms: "The Chellean type is the Chellean form of the Palearctic regions. This is indubitable. But the types that might correspond with the Aurignacian, Solutrean, and Magdalenian cultures, especially the last, have an indescribable facies of their own which may be said to be South African. On the other hand the pygmy implements, and others with the *bord abattu* of the French, cannot be very readily distinguished from the English, French, and Indian implements of the same type, except, of course, by the material of which they are made; but they more closely approximate the Algerian and Morocco examples."

After a brief review of European typology Péringuey (p. 17) begins his survey of the different types of south African Paleolithic implements and states that he has no difficulty in dividing the *bouchers* into several types, owing to their appearance or facies, or to the material of which they are made. He then describes the manufacture and probable uses of the *bouchers*. The geological evidence for establishing the relative antiquity of implements is said to be inadequate. The survey includes an account of a Neolithic period, though the term is perhaps not justified, and some description is given of pottery, ornaments, and craniology of the Strandloopers, all with a view to summarizing the information available in the year 1911. But it is evident that the prehistorical studies are a long way from presenting a relevant and connected story of physical types, their succession, wanderings, and achievements.

Among articles of importance dealing with special sites and specific types of implements are the following: N. Jones (1920) describes the evidence for four successive periods of prehistoric occupation at Taungs. From the earliest period are water-worn hand-axes of all shapes and degrees of workmanship; then, more recent, are some flakes and scrapers of diorite which are not water-

worn. A still more recent period produced specialized implements of chert with a careful secondary chipping. A final period is characterized by the presence of implements and chips produced by Bushmen. A stratification of stone cultures at Tiger Kloof is also considered in this article. Further examples of local studies are those by N. Jones (1924, 1930), Gardner (1928), Goodwin (1929), and Armstrong (1931).

N. Jones (1924) states that the country between Bulawayo and the Zambezi River is particularly rich in stone implements, chiefly hand-axes, "strikingly similar to those of Chellean and Acheulean age in Europe." Similar types of early Paleoliths are found abundantly in British Bechuanaland. In addition to the river gravel implements, the Later Paleolithic is represented in Rhodesia by implements discovered in caves of the Matopo Hills and in superficial deposits. These flake-implements with Aurignacian facies are regarded as the work of Bushmen. But between the remote period known as the River-drift, and the Aurignacian period, there is a gap which is yet without an archaeological bridge.

The peculiar interest of the Sawmills site, situated fifty-five miles northwest of Bulawayo, lies in the fact that "we have here two distinct periods of human activity, an older and a newer, both clearly separable by geological methods." The article gives illustrations of stone implements from the older terrace, of "fabricators," of crescentic scrapers, and of microliths. The later implements as a whole show clear resemblance to Aurignacian forms of Europe, but such evidence does not permit the assumption that the Bushmen who fashioned these implements were of the race responsible for an Aurignacian culture in Europe. Possibly the Bushman derived his knowledge of stonecraft from an earlier race, "but so far as present research has carried us in South Africa, we are here in the realm of pure conjecture."

Father Gardner's article (1928), with numerous illustrations, gives a clear idea of the typology of the Wilton stone-age industry, which includes a variety of scrapers and crescents. N. Jones (1930) also describes a particular phase of stone-age culture, the rostro-carinate, a term borrowed from Reid Moir's nomenclature for some late Pliocene and early Pleistocene implements of East Anglia. Jones (p. 73) states, "The occurrence of this primitive form of implement is of special interest in that it points strongly to the identity of the race that evolved it both in Europe and South Africa." This is, however, a strong statement, which will, I think, have to be

regarded with great mistrust. Jones continues to describe the sequence of implements from the site where the rostro-carinate implements were found, at Hope Fountain, Rhodesia. He regards the Hope Fountain industry as a developing series extending from the Chellean to the early Acheulean.

Armstrong's (1931) description of excavations in a Bambata cave emphasizes a development in archaeological technique, and the opening remarks indicate a broad outlook on the possible interrelation of European and south African archaeological problems. Bambata Cave in the Matopo Hills south of Bulawayo contains deposits and a frieze of wall paintings (p. 240). "Two sections were systematically excavated to the bed-rock of the cave, a maximum depth of 20 feet 3 inches, and yielded a complete sequence of deposits varying from Lower Paleolithic (South African Acheulean), to a Microlithic culture [Fig. 22, *e-j*], believed to be ancestral to the Wilton culture of the Cape. The succession of cultures was found to be in close agreement with the European sequence." A careful investigation was made into the nature and age of alluvial deposits near Bambata Cave, and the artifacts of these deposits were used as a standard for correlating the deposits with definite stages in the occupation of Bambata Cave. "Implements from the Lower Palaeolithic horizon of Bambata Cave were correlated with those collected in numerous Rhodesian river valleys." The Zambezi gravels south of Victoria Falls were visited and evidence was obtained relative to the distribution of the Lower Paleolithic series of implements found there. The relation of these implements to stages in the erosion of the Zambezi gorge was studied.

Armstrong (p. 248) cautions against a free use of European archaeological terms unless these are modified by prefixing the words "south African." One should be careful also not to assume that similar artifacts from Europe and south Africa are contemporaneous. In conclusion (p. 273), Armstrong states that the excavation of Bambata Cave has given the first south African example of a stratified sequence of cultures from Acheulean to Wilton; the latter is the African cultural equivalent of the European Tardenoisian.

An important result of the work in Bambata Cave was the evidence of long occupation of the cave by Mousterian man, the entry of *Homo sapiens*, and the fact that these two races occupied the cave alternately, each preserving a pure culture. This discovery agrees with that of Leakey, whose excavation in certain Kenya gravels led him to conclude that the two races were contemporary there. With

regard to this statement, a student should be warned that the evidence for the occupation of Bambata by two races, Mousterian and *Homo sapiens*, is cultural and not osteological. The further conclusions of Armstrong will be quoted verbatim later in this chapter, since they are of importance in our summing up of the cultural relationship of stone-age man in north, east, and south Africa, and in Europe.

The research of Armstrong has brought our inquiry to a point where a selection of recent literature (1927-32) should be made in order to continue the discussion of cultural sequences in south Africa and their possible external relationships.

Goodwin (1927) refers to a new school of archaeological thought in south Africa, and a tendency of this school to take over the European terminology, sequence, and even dating. "The result has been chaotic." Goodwin then outlines a scheme of classification, typology, and cultural sequence which has been adopted as a working basis by the South African Association for the Advancement of Science. It is extremely important that a student should memorize this scheme, since all discussions make use of the terminology. Two main divisions are recognized for south Africa, the earlier stone age and the later stone age. The earlier period lasted thousands of years, and the period ended possibly three thousand years ago, though precise dating is quite impossible. Dr. Péringuey's term, Stellenbosch, for the main culture of the earlier stone age has been retained. The main types of this culture are *coups de poing* of well-known forms, oval, almond-shaped, pear-shaped. A second culture of the earlier stone age is the Victoria West, and a third the Fauresmith.

Following the earlier stone age, and probably overlapping, is a later stone age, of which the first industry is the Still Bay, somewhat similar to the Solutrean of Europe, with pressure technique producing a lanceolate implement about two inches long. The Still Bay was followed by the Smithfield and Wilton cultures, which were probably contemporary and may have extended into modern times. The Smithfield culture consists mainly of duckbill-shaped end-scrapers, and with these are associated other forms of scraper, stone borers, bored stones, ostrich-eggshell beads, stone rings (armlets), pottery, also human bones. The Smithfield industry is similar to the Lower Capsian or Lower Aurignacian. The human bones are of that general type known as "Bushman." For a tabular statement of these south African culture sequences, see Leakey (1936a, p. 97). This table is Leakey's personal interpretation of the data.

The chief implements of the Wilton industry are the lunate crescent, end-scaper, horseshoe scraper, and thumb-nail scraper, and with these are associated pottery similar to that of the Smithfield culture, bone implements (Fig. 23, *d-g*), Bushman skeletal remains, and cave paintings. All evidence considered, the Wilton culture is identical with the last phases of the Capsian of Spain and north Africa, in which implements were all of the pygmy variety. The Wilton industry survived to the year 1870 at Kimberley.

In conjunction with Goodwin's summary of the classification of stone cultures in south Africa, his "Handbook to the Collection of Stone Implements in the South African Museum" (1926) should be read. On page 24 appears a diagram illustrating the possible origins and interrelations of the stone-age cultures of Europe, north Africa, and south Africa. This guide summarizes the stone-age cultures of Europe and pictures Aurignacian man starting from the east and arriving at the Mediterranean Sea. There the migration split in two, one part following the northern shore while the other part continued along the north coast of Africa. "The northern branch took with them the true Aurignacian culture, which was to oust the lower culture of the less advanced Neanderthal race. The African branch carried the Capsian culture which was later to pass across Africa and from there into Italy and Spain across the great land-bridges which split up the Mediterranean Sea into three or four separate areas."

Furthermore (p. 8), Goodwin pictures the culture of Capsian man of north Africa, and draws inferences of his physical appearance from paintings in the caves of Spain. In connection with the Capsian culture, Goodwin notes the introduction of the bow and arrow into Europe, the clothing of men and women, the physical trait of steatopygy (large buttocks), the beginning of ceramics, and the piercing of large stones to serve as weights for digging sticks. "We now know that our own south African Bushfolk are culturally the same as these long-dead north Africans who spread into Southern Europe. Whether or not they are physically the same is so far impossible to say. His culture, however, can be traced in east Africa and Uganda, and reappears in the Union over the whole of the central portion. The technique of the 'Bushman' paintings is identical with the technique of Spain, the materials used are the same, the same attitudes are seen, and the same disposition to depict action rather than objects."

These brief articles by Goodwin serve as an introduction to a comprehensive work by Goodwin and C. van Riet Lowe (1929), who

survey the whole classification of implements in south Africa from the Stellenbosch industry through all the periods mentioned by Goodwin (1926, 1927) to the Wilton and some Neolithic elements. For a brief summary, with appreciation and criticism of this work, Menghin (1933, pp. 370-371) should be consulted. A detailed summary of the prehistory of south Africa is Lebzelter's (1930) "Vorgeschichte von Süd- und Südwestafrika." A geographical survey of sites is made and information is given concerning types of implements, their topographical distribution, and chronological succession. The work is amply illustrated with plates and text figures.

Our digest has now advanced from a period of preliminary observation, through an experimental stage of classification and speculation to evolution of a definite technique of excavation, stratification, and typology, thence to the wider hypotheses relating to the genetic relationship of cultures widely separated geographically. This broader archaeological view requires further discussion, since these hypotheses of wide outlook are the ultimate aim of many workers, whose separate observations and minor excavations are of little importance if left without coordination.

Armstrong (1931, p. 274) makes generalizations that agree well with those of Goodwin:

"The excavations [Bambata Cave] have also revealed the effect of fusion between elements of Mousterian culture and the Capsian culture of the Neanthropic immigrants, and the discoveries have indicated the possible origin, and line of evolution of the European Solutrean technique. Striking evidence has been obtained for the correlation of the early Rhodesian cave art with the culture of the Neanthropic immigrants, which, together with the Capsian character of the associated culture, establishes an important link with the Aurignacian culture of Europe and supports the evidence in favour of a common origin for the two cultures in the Capsian of North Africa.

"In the light of the evidence, together with that derived from Mr. Leakey's discoveries in East Africa, I am inclined to the opinion that *Homo sapiens* evolved the Capsian culture in the region of the Sahara Desert, and that the increasing aridity and ultimate drying up of that region supplied the impulse which drove him out in successive bands, northwards into Europe and south-east, by way of the Rift Valley and Great Lakes of Eastern Africa, into Rhodesia and beyond. There he apparently found a population of Mousterian

culture and probably of a Neanderthaloid stock, over which, after an interval of dual occupation of the country, the new-comers became dominant. Possibly there was a fusion of blood, but there is clear evidence of a strong cultural fusion."

Armstrong further points out similarity between the Wilton microlithic culture and that which is so widespread over east and north Africa. Both find expression in the European Tardenoisian, and these similarities imply a migratory movement from a center in northern Africa. The evidence for this migration in Africa from north to south is very strong; the route followed is that for the earlier spread of the Capsian. The discovery in the Bambata excavations of the presence of a pygmy burin in this Wilton culture, and its confirmation on almost every site visited, is an important one which establishes a closer link with the European pygmy cultures.

A presidential address by Lowe (1930) is a valuable contribution to our present summary of the development of archaeological work in south Africa. The address passed from historical development of archaeological interests to a choice of nomenclature. The need for caution in using such terms as Chellean was impressed, and the value of a south African terminology was defended. The speaker expressed the opinion that "the big problem in south Africa is the correlation of cultural and human remains, first with each other, and then with the various Pleistocene Pluviations and earth movements. Then the big problem for all prehistorians will centre largely on the Glacio-Pluvial correlation, for, until this is solved, it is impossible for us to recognize relative time horizons." The work of Leakey and Solomon in east Africa was referred to as "a great link in a great chain." Lowe (p. 104) expressed the opinion that paleanthropic man reached and inhabited Europe. He urged further study of geology and climatology, and the more numerous and thorough excavation of such sites as caves and rock shelters, river terraces, and raised beaches. In a somewhat later address (1932) he again justifies the departure from European archaeological nomenclature, but he recognizes resemblances between south African and European forms, and he tabulates the main divisions of the Lower Paleolithic cultures in south Africa with their European type equivalents.

In completing a study of the three major regions of Africa where systematic archaeology has advanced appreciably, the generalizations of Leakey (1931, pp. 238-239) should be read. He repeats the hypothesis with which we are already familiar: namely, that of a westward migration of Aurignacian man from Asia. On two main

lines the immigrants advanced, the one into western Europe by Palestine and the Caucasus, the other through Arabia into east Africa about the Straits of Bab-el-Mandeb, thence via Somaliland into the Sudan and north Africa. This hypothesis would account for the fact that the Aurignacians in Kenya are so much earlier than in north Africa or in Europe. There is, however, a rival hypothesis favoring the origin of the Aurignacians in the southeast Sahara.

Professor M. C. Burkitt (Wayland and Burkitt, 1932, p. 378) demonstrates that the Magosian culture of Uganda has affinities with the Wilton and Still Bay cultures of south Africa. In both east and south Africa (p. 379) a cross-fertilization of cultures resulted from contacts of middle-stone-age people and the later Neanthropic arrivals. Burkitt suggests that the area now known as Uganda may have been the cradle of that modification of Neanthropic man who developed the Wilton industries of south Africa. The consensus of opinion favors cultural and also racial migrations from north Africa into southern Europe, and down the east side of Africa into the southern part of the continent. For a comparative table of all African stone-age cultures, see Leakey (1936a, p. 136). Consult also page 188 for discussion of the part played by diffusion and parallelism in determining cultural resemblances. Leakey accounts for resemblances of Solutrean, Aterian, and Still Bay cultures on the grounds of "parallel evolution," and he explains the various microlithic cultures of Africa in the same way. Yet the truth often lies in allowing for a combination of the two processes.

THE CONGO REGION AND WEST AFRICA

Archaeological work in these areas is definitely less developed than in the three regions, north, east, and south Africa, for which the data have been summarized. In fact, one may say that so far as stone implements are concerned the archaeological outlook for central and west Africa is in the primary stage of observation. The period of systematic excavation, and the formation of hypotheses respecting the internal sequence and outside relationships of the Congo and west African stone-age cultures, have not yet been attained.

In 1899, Stainier published in the "*Annales du Musée du Congo Belge*" a brief report on stone implements of the Congo, where the first specimens appear to have been found in 1885, and in 1891 a stone-age station was discovered by M. J. Cornet near Katanga. Since that time numerous specimens have been unearthed at localities

shown on Stainier's map. These localities are peripheral about the main Congo River and its affluents, and no stations are marked within the heart of the forest region. This may be due to absence of excavations in the densely wooded interior; naturally the greater number of discoveries were made in making railways and roads in the more accessible outer regions. Yet it may be that stone-age invaders did not reach the internal forest regions.

Stainier (p. 13) is unable to date the objects with any certitude, but it is probable that they are Neolithic; some of them are indubitably so, as, for example, polished axes and arrow-points. But side by side with the neoliths are paleoliths of the same material and of Chellean form. Tradition is absent, and the temporal relationship of stone to iron is unknown, but iron and copper are abundant; therefore, transition from the use of stone to metals may have been rapid.

Menghin (1925, p. 518) has prepared a bibliography of contributions to archaeology of the Congo from the year 1887, together with a list of the types of implements found, their provenience, and the institutions where they are deposited. In Menghin's compendium, "Weltgeschichte der Steinzeit," indexed references to the Congo stone age will be found under the word "Tumbien."

Rakowski (1921) reports on a collection of Neolithic stone implements from the Welle region of the Congo, now deposited in the Belgian Colonial Museum at Tervueren. A list (p. 155) details the provenience of these implements, and a map showing the sites is given. "Only four of the forty-six specimens have been found in the earth, all the others having been collected on the surface. Of these four specimens three happen unluckily to have been found by natives, who discovered them in the beds of small rivers, or embedded in the banks of dry water courses. One specimen only has been found *in situ* by a white man, No. 34, from Lubumbashi on the Upper Luapula. It was extracted from alluvial drift 13 feet below the surface." The majority of the implements are made of hematite iron ore; some are of greenstone (diabase), and others of a bright greenish rock, much weathered. The specimens may be divided typologically into seven categories which are illustrated by outline drawings. A short bibliography (p. 64) is appended. A collection of stone implements from the Congo, now in the Trocadero, Paris, has been described by Breuil and Kelley (1936).

Apart from Menghin's speculation (1925, p. 553) regarding the possibility that the Tumbakultur in the lower Congo and west

Africa is part of the Graebnerian Kulturkreis, we have no theories of the origin of the Congo stone age. Archaeological work for this region is not much more advanced than that of south Africa fifty years ago.

In west Africa the position of prehistoric archaeology, though backward, is more advanced than in the Congo region. Some of the principal discoveries of archaeological interest for west Africa have been summarized by Hambly (1935, pp. 379-388) who gives a short bibliography.

Desplagnes (1907, pp. 22-38) describes workshop sites where stone implements were made in various localities notably near to Lotokoro and Gao. The types of instruments, varying from crude *coups de poing* to various burins, scrapers, and arrowheads (Desplagnes, Plate XV), indicate that the technique ranges from rough Paleolithic forms to small Neolithic instruments of quartzite. Some typically Neolithic stations are distinguished by the presence of fragments of iron and abundance of well-ornamented pottery fragments. Desplagnes asks (p. 29) whether invaders from the north brought a knowledge of iron to primitive Niger fishermen of the stone age; such a suggestion is favored by the different types of tombs that may be seen near the workshops. Undoubtedly the age of stone persisted for a long time and was prolonged into the iron age. In tumuli of the Niger region under discussion are weapons of copper and of iron together with Neolithic stone implements (Desplagnes, Plates XVI-XVIII).

A range of archaeological observations of this kind, showing a sequence of cultures, is definitely in advance of our knowledge of the Congo stone age. But for the main part, west African implements are surface finds, usually celts, though Brauholtz (1926) has described both Paleolithic and Neolithic implements from Nigeria. To this list Balfour (1934a) adds a note on "cleavers" of Lower Paleolithic type. This is a pattern dominant in south Africa south of the Zambezi, and the further dispersal of this "cleaver" in Africa is of interest.

Polished celts and their ceremonial use at the present day have been described by Dwyer (1903), and by Balfour (1903). Dwyer states that celts are connected with the reverence of the Yoruba for the Thunder God, Shango, who is said to use such stones as messengers.

The antiquity of polished stone celts is discussed by Rattray (1923, pp. 322-331). Although the stones are of a sacred character

because of their association with Nyame, the Sky god, from whom they are supposed to have originated, many people know that the stones are of human manufacture, and that some of them were employed recently. Rattray is of the opinion that "transition from the Neolithic to the iron age was not sudden. The stone implement [Fig. 22, *a*] and the iron one that was eventually to oust it must have been for a time used side by side in forest and field." Meek (1925, vol. 1, pp. 51-56) notes a variety of paleoliths in west Africa generally, and a few roughly flaked types of implements which might be regarded as being of early-stone-age type have been found in the Northern Provinces of Nigeria. Meek gives a list of early stone implements discovered in the tin mines of the Bauchi Plateau. Some of these are of the Paleolithic "river drift" type of Europe, and some could be described as Mousterian in form. A list of polished celts, arrowheads, and scrapers from Naraguta is given (p. 51). Meek remarks that primitive Africa probably passed directly from the stone age to the iron age, but Rüttimeyer (1911) shows that stone and bone are used at the present day. He mentions a bone-pointed spear of the Shilluk, and a stone-headed club of the Ja-luo. Stone hammers, anvils, and grain pounders are today extensively used.

In Cameroons, Migeod (1925, pp. 252-258) found polished stone axes and some paleoliths between Victoria and Yola. The implements are classified by Migeod as Paleolithic-rough-hacked, Paleolithic-flaked, and Neolithic. Since the stones were not associated with stratified beds, but were merely covered by a thin layer of soil resting either on granite rocks or on Eocene sandstone, the geological formation does not aid inquiry into the antiquity of the implements. With further reference to the Neolithic age in Cameroons, Fourneau (1935, pp. 67-83) gives information respecting materials used, sizes and shapes of the implements. Laforgue (1931, p. 463) attempts to classify prehistoric zones of west Africa into three main sites in each of which some distinguishing industry predominates. The main zones are (1) Saharienne, which extends north of the 18th parallel; (2) Sahélienne, between 14° and 18° N. Lat.; (3) Soudanaise. Laforgue details what he considers to be the distinguishing types of artifacts for each of these regions, and concludes by pointing out the fact that most of the implements discovered in west Africa are without geological information.

The obvious need is for systematic excavation of numerous sites with a view to determining stratification and the relative ages of the various types of implements. Prehistoric pottery has not been

carefully studied, though Laforgue states that in Zone 2 pottery is abundant and often artistic. Rattray (1927a, pp. 295-301) describes prehistoric pottery of Ashanti, which differs radically from that made today. Some of the ancient, highly ornate pottery was found with celts, and Rattray inclines to the view that this early pottery was made by unknown people to whom the present Ashanti were strangers. This pottery has been further discussed by Wild (1934b, pp. 203-215), who notes the occurrence of the pottery with stone celts of several forms, but no associated human bones have been discovered. Information is inadequate for dating the pottery, but certain historical considerations suggest that makers of the coarse red ware were carrying on their craft in the seventeenth century.

A vast amount of skilled and organized research is necessary to bring the archaeology of west Africa to the level of attainment reached in the north, east, and south of the continent. The need is for more systematic excavation in many areas, together with accurate geological surveys, the two being an essential step toward the co-ordination of west African archaeological discoveries with those in other parts of the continent.

Apart from the question of stone implements, their types, distribution, and chronology, west Africa has some minor archaeological puzzles, though these have no known connection with the stone age. Curious statuettes of stone and clay from Sherbro Island and Liberia have been described by Neel (1913a, pp. 419-443). According to Joyce (1905), no information is available respecting the makers of *nomori* figurines such as are used by the Mende of Sierra Leone. Such statuettes are placed under small shelters in the fields and offerings of food are made to them, or the figurines may be chastised to make them comply with the wishes of their owner. Constant tribal incursions into this region where *nomori* figures are now found, but not made, might account for the rapid disappearance of the art of making them. The soft stone of the figurines wears quickly; therefore, the abrasions and weathered appearance may erroneously suggest antiquity. Addison (1934) provides excellent illustrations of *nomori*, and he explains that in Mende *nu* or *no* means a person and *mori* or *moli* means to ask a question. *Nomori* may contain good or bad spirits who will answer questions and fulfill requests. Approach to the *nomori* is usually made through a medicine-man.

Terra cotta heads and the priesthood associated with them at Ifé, Nigeria, have been photographed by Hambly (1935, Plates CLIV, CLVI, CLVII), who summarizes (pp. 466-468) some of the views

respecting a possible Carthaginian or Egyptian origin of a craft which is unique. Other illustrations of these objects may be seen in Frobenius (1913, vol. 1, Plates VI, IX). These *nomori* of Sierra Leone, and terra cotta heads of Ifé, with stone monuments of that region, cannot yet be shown as part of a general archaeological problem. And in west Africa, as well as in other parts of the continent, are stone structures of unknown origin and age which will have to be considered later.

ROCK PAINTINGS AND ENGRAVINGS

Literature bearing on the regions of Africa in which stone implements have been found should now be searched for evidence of artistic expression. The association of works of art with types of stone implements should be noted, and the testimony of paintings and engravings should be added to the other evidence bearing on migrations of lithic culture and of stone-age races. Examples of prehistoric art can be conveniently considered in northern, eastern, and southern divisions, though there are no clear geographical lines of demarcation between the northern and the eastern examples. The territory where rock sculptures and paintings are found extends from Algeria to Libya, through Nubia and Kordofan into Tanganyika Territory and south Africa (for comparison of styles, see Fig. 24).

As with the study of stone implements, we have in connection with primitive art a period of preliminary observation resulting in notes and short articles that evince a growing interest in the subject. The observations become extended geographically and the sites are more thoroughly described. Finally, there is an attempt to unify pictorial with other archaeological evidence, and hypotheses respecting the migrations of early cultures are formed.

NORTH AFRICA

Barth (1857, vol. 1, pp. 197-200) portrays rock engravings in the Wadi Telisaghé near Murzuk, where sandstone blocks were covered with drawings "made with a firm and steady hand, well accustomed to such work, and cut to a great depth." A sculpture (p. 197) represents a group of three individuals of the following character and arrangement. To the left is a tall human figure with a long, narrow, horned head. I could not agree with Barth that this is the head of a bull; the tapering head is more like that of an antelope. This anthropomorphic person carries a bow and arrow in the left hand. On the right of the picture is a similar individual, and between them a horned animal. Barth observes that the sculpture has nothing

of a Roman character but some particulars call to mind the Egyptian sculptures, or again the sculpture may have been executed by some one who had been in contact with a civilized people, possibly the Carthaginians. Barth does not suggest that the sculptures may be due solely to the genius of a primitive people. Bates (1914, p. 94) gives the most feasible explanation of this petroglyph as a hunting scene in which the two males are disguised with the head skins of animals so that they may approach close to their quarry. Barth remarks on the absence of the camel from the sculptures, and the fact that at the time the sculptures were made oxen were used for transport in that region. Other sculptures show the ostrich and the buffalo.

These examples given by Barth are of great importance in further comparative study of prehistoric art in Africa. The technique of engraving, and above all the distinctive style show undeniable affinities with a phase of art, examples of which have been observed in southern Spain, north Africa, Kordofan and south Africa.

Among early papers on the subject of rock engravings, Gautier (1904) should be consulted with regard to pictures from Zenaga. The antiquity of the drawings representing elephants, ostriches, and the extinct *Bubalus antiquus* is uncertain. These animals persisted until Carthaginian and Roman times, and the engravings are not necessarily extremely ancient, yet in the opinion of Gautier they are probably the work of prehistoric, stone-age man. For a summary of what is known of the north African Pleistocene animals, consult A. S. Romer (1928).

A southwesterly extension of the art of rock engraving is noted by Desplagnes (1907, pp. 77-84) in the French Sudan, but many designs are painted, not sculptured, and they appear to belong to a late Libyan-Berber and Tuareg class of inscriptions. To this class of inscriptions belong the examples discussed by Bates (1914, pp. 73-85, 160) and by Bertholon and Chantre (1912, vol. 2, pp. 503-518). Both works make a comparative study of Libyan, Punic, and Tamashek symbols. Bates (p. 85) states that no inscription in Libyan characters has yet proved older than about 400 B.C.

The early observers are agreed that on stylistic ground alone the engravings such as those recorded by Barth are *sui generis*, and despite our ignorance of origins and chronology two classifications can be made: (1) rock engravings of animals, probably made by prehistoric, stone-age man to represent the game he followed; and (2) relatively recent engravings of camels, together with Libyan and

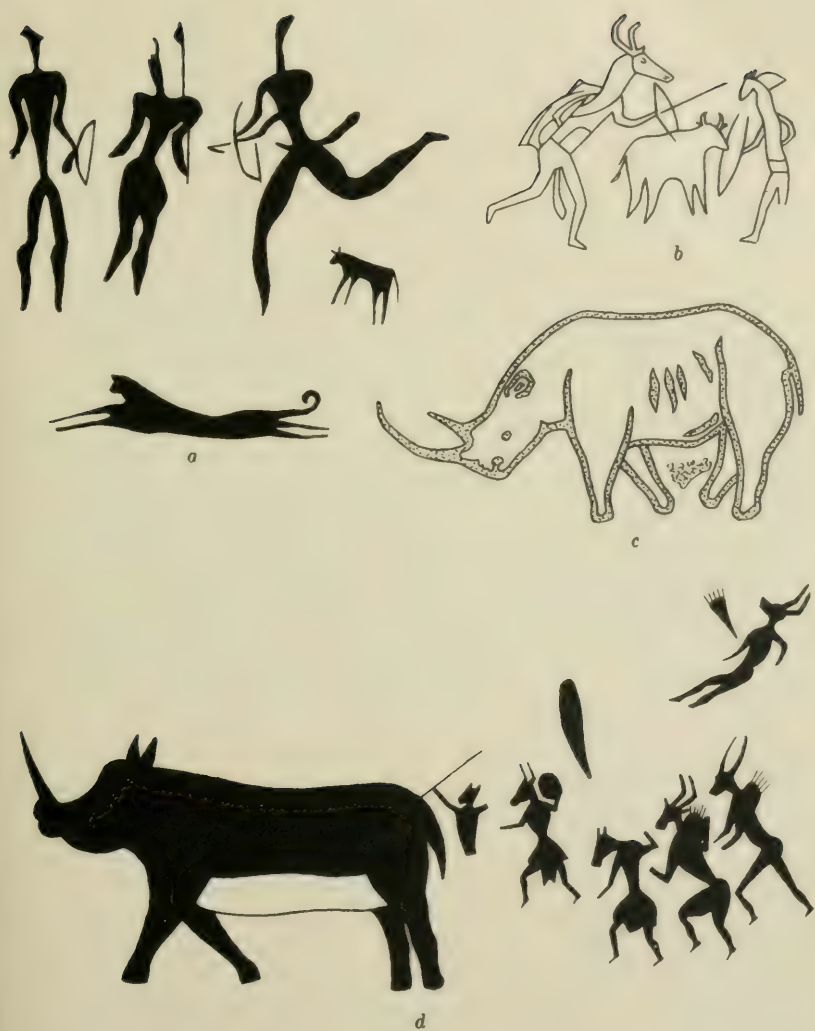


FIG. 24. Rock paintings and engravings.

T'ifinagh symbols. Excellent examples of the second class are given by Zeltner (1913, pp. 171-184). He points out that the evident use of a sharp engraving tool of stone for making incised drawings does not assure the antiquity of the sketches. Some of the drawings, which were clearly made with a sharp stone point, include designs of camels and of a man clad in trousers.

At an early stage in the observation of designs, Zeltner (1911, pp. 11, 12) remarks that those he illustrates from the French Sudan, though in some superficial details homologous to European and Algerian works, are completely separate from these in their general character. Zeltner summarizes the nature of the Sudanese cave paintings. These are always at easily accessible altitudes near the entrances to caves. The colors used are specified in detail, and Zeltner is convinced that the paintings were made by the artist's fingers. Geometric ornament dominates, and realistic representations are few. Conventional representations of men and of animals recall the rock engravings of Hadjra-Mektouba in the Sahara, and of Egypt. The early work of Zeltner makes clear that further study will have to be strictly typological and technological. Schools of art have included incised sculptures, often on exposed rocks, and paintings in caves. Of the relative chronology of these, nothing definite is known, but the changes of style and type suggest the work of different peoples and separate periods.

The name of Flamand is prominent among students of rock sculptures of north Africa. A brief account of his views may be found in a short article (1914) describing two new sites of engraved rocks in south Algeria. The principal engravings belong to the prehistoric period, and among these the most notable are an antelope (bubale), a lion, and an ostrich. This paper is, however, only an introduction to a comprehensive work (1921) which is the most helpful survey yet published. The author divides his thesis into five parts, the first of which is historical from about the year A.D. 1800. He then deals with techniques of prehistoric, Libyo-Berber, and recent engravings. The distribution of sites is discussed, and a separate section is devoted to pre-Libyan (Neolithic), and to Libyo-Berber and Mohammedan engravings, respectively. The illustrations, indexing, and discussion make the work preeminent.

The collection of Saharan rock engravings and paintings (Frobenius and Obermaier, 1925) shows a great advance in the technique of publishing the rock engravings and paintings, many of which are reproduced in their natural colors. For the main part, these rock

engravings are of the Barth type, including excellent representations of horned cattle, ostriches, antelope, hyenas, lions, elephants, and wild asses, which show true affinity with some south African examples both in style and the subjects chosen, as well as in the technique of engraving. The text accompanying the pictures describes the phases of stone-age culture in north Africa. But there does not appear to be sufficient evidence to associate each of these phases with some specific form of art. The evidence produced is in the nature of a general comparison of the Paleolithic art of southern Spain and the art of north Africa, which on stylistic grounds is reasonably assumed to be the work of stone-age hunters. Obermaier (p. 41) speaks of the necessity for grouping these north African rock pictures according to their styles and periods of production. He recognizes three main styles: (1) the realistic portrayal of animals; (2) a combination of this art with use of conventional forms whose meaning is not clear; (3) more modern Libyan and Tuareg art, with etchings sometimes superimposed on the old-stone-age engravings.

During the past five years a new impetus has been given to the study of prehistoric art in north Africa by Monod (1932), Reygasse (1932, 1935), Passemard and Saint-Floris (1935), and Perret (1936). For further examples of African art, Frobenius (1930-31) and Breuil (1931) should be consulted.

Selecting the more recent of Reygasse's publications, we have some excellent illustrations of the realistic school of prehistoric art from Tassili des Ajers, situated west of the Tripolitanian frontier between Ghadames and Ghat. With the pictorial records of Reygasse should be compared those of Perret (1936) from the same region. Reygasse states that owing to the impossibility of associating stone-age material with the engravings, which are exposed on rocks situated on high hills, a scheme of chronology for the works of art is at present impossible; neither can they be synchronized with similar works of art from prehistoric Europe. Yet these sculptures, in common with all rock engravings and paintings in the Sahara, fall into two main categories. On the one hand we have the ancient engravings, and in contrast to these the more recent Libyo-Berber art characterized by decadence of style and the appearance of the camel, which was not used in the Sahara until about A.D. 200.

Reygasse, moreover, distinguishes two clear divisions in the art of Tassili des Ajers. Firstly, there is the art of a primitive population of hunters and food-gatherers, and, secondly, there is the art of the

first pastoralists. The basis of this classification is the study of different patinations of superimposed drawings, consideration of techniques, of the fauna, and lastly of costume and ornament. The art of the earlier period is readily distinguished by the presence of such tropical animals as the hippopotamus, rhinoceros, elephant, giraffe, antelope (bubale), Bovidae, and ostrich, which flourished before profound climatic changes took place. The drawings of the first pastoral people depict horses, oxen, and goats. The paintings, which are always in rock shelters, all belong to a pastoral age, and in association with some of these are Neolithic stone implements. Reygasse accepts the stylistic affinities of north African art of the old type with that of southern Spain and south Africa, and no observer who compares the drawings from these areas can fail to agree that resemblances are fundamental. That such analogies could arise *de novo* in separate centers seems impossible, and the argument for migrations of cultures and peoples is considerably strengthened by consideration of these works of art from the Sahara.

For critical notes on the views of Reygasse, see "Nature," vol. 39, 1937, pp. 432-435.

Beyond providing additional examples of the Bushman type of art, which are excellent, especially in the portrayal of human figures, Passemard and Saint-Floris (1935) have not attempted to solve stylistic and chronological problems. These observers have, however, extended the geographical scope of observation by their careful records from Ennedi in the northeastern part of Chad Colony. In this region Tilho (1920) made some preliminary observations. The rock drawing he shows from the oasis of Yarda in Borku is of a somewhat recent type, with camels as the principal motif.

Two papers dealing with the work of classification of styles, chronology of styles, and resemblances between art forms in north Africa and Europe have been published by E. S. Thomas (1926) and by Kühn (1927). The former sets out to make a study of drawings from ancient Egypt, Libya, and the south Spanish caves, and he has summarized his results by tabulating a large number of drawings in parallel columns. The designs are geometrical, together with conventionalized forms of human beings and animals. The pictures are assembled from many localities and from the works of various observers (p. 387), and a series of notes on the more impressive resemblances is offered.

Kühn opens his synthetic article by observing that the most urgent question connected with research into Paleolithic art is that

of assigning dates to the north African pictures of the Sahara-Atlas region. The reasons for ascribing pictures to a Paleolithic or to a Neolithic age are analyzed (pp. 14-16), and the characteristics of the old- and new-stone-age patterns as given by Kühn agree well with those we have just quoted from Reygasse. The evolution of style, the animals represented, the patination, the weathering of the incisions, the associated implements, and the introduction of figures of domestic animals, all aid in separating the older Paleolithic art from the Neolithic. Kühn (p. 25) calls attention particularly to the resemblance between his illustrations (Nos. 15, 18) from Tiout and those of the Paleolithic period of cave art in France and Spain. Finally he gives a comparative series of drawings of animals from prehistoric Egypt, from the Sahara-Atlas region, and from French and Spanish sources, which support his argument for a widely diffused and specific form of Paleolithic art.

LIBYA AND KORDOFAN

Our résumé must now make a geographical excursion into Libya where several observers of the past decade have copied rock engravings. Newbold (1924, p. 64) portrays pictures of animals and human beings which he found incised on rock surfaces at Zolat el Hammad. Some of the engraved figures are indeterminable, but others clearly represent tailed and phallic men, elephants, giraffes, ostriches, oryx, and cattle. Newbold notes a distinction between the pictures of several sites of the region, namely, the presence or absence of engravings of camels. This is a factor which aids in determining the age of the pictures. Newbold is of the opinion that the drawings he saw were the work of southern Libyans known as Tamahu, who formed the ruling caste in Ethiopia about 300 B.C. The age of the drawings is at least 2,000 years, and may be as much as 4,500 years, since the Tamahu ranged over the Dongola and Halfa deserts as far back as 2500 B.C. The drawings are crude, and the style does not suggest close technical relationship with those north African rock pictures we compared with Bushman art. Some of the sketches (p. 76, Plate VII) are, however, a little suggestive of Bushman style. A steatopygous human figure appears, and tailed human beings are shooting with bows and arrows. These pictures from the rocks at Gelti um Tasawir in Jebel Tageru might, I think, safely be classified with those we have previously relegated to a hunting stage of culture in the Paleolithic period. Taking Newbold's pictures as a whole, they could perhaps, with further study, be grouped as (1) Paleolithic, (2) early historical, dealing with a Libyan culture of

500 B.C. and earlier, (3) the camel period from A.D. 200 onward. Newbold (1928, p. 263) impresses the difficulty of assigning dates to rock engravings in the Libyan Desert, since rock pictures and stone implements are surface finds, but he turns to Ptolemy and other geographical and historical sources to show the extension of a population of Garamantes, Mazices, and Nubae over wide territory now uninhabitable. Between one and three thousand years ago, there was much movement both vertical and lateral, in the Libyan Desert, and many oases now described as "lost" sheltered a population. So much is ascertainable from a study of place names in the writings of Egyptians, Romans, Greeks, and Arabs. From the data supplied by Newbold, we must learn to forget the present inaccessibility of desert regions when forming hypotheses of the migrations of peoples.

The brief description of rock engravings at Ouenat given by Hassanein Bey (1924, pp. 353-366; 1925, pp. 203-205), and by King (1925, pp. 326-336) for other parts of Libya, should be supplemented by Newbold's more detailed description (1928, p. 286). Newbold believes that, generally speaking, the pictures of Ouenat belong to the pre-camel era, and (quoting Abbé Breuil) he indicates that the Ouenat series may be divided into several groups with a time sequence. Realistic ostriches and giraffes probably belong to the Upper Paleolithic age, and these are of the same style as the best Bushman drawings in South Africa. Among the other and more modern rock pictures of Ouenat, the incision of outline and the "pecking out" processes, both of which were used by rock engravers in south Africa, are distinguishable. Newbold remarks in conclusion that "until we can find associated and stratified implements or other remains on a rock-picture site, the chronology must remain vague." He offers a suggestion of four categories of Libyan rock pictures: (1) Bushman type, Late Paleolithic or Early Neolithic; (2) Early Libyan, Neolithic, predynastic, and Old Egyptian Empire; (3) Middle Libyan, Middle and Late Empire, down to the introduction of camels into the Sudan; (4) Roman, medieval, and modern.

Among recent representations of ancient art from Ouenat north-east of Kufra are those described and illustrated in color by Murphy (1934, pp. 796-799) and by Calzoni (1933). These rock paintings were discovered by a Hungarian explorer, Count Almasy, whose contribution brings us closely in touch with Bushman styles at their best, and their technique supports the view of Newbold that Ouenat provides in general an example of the art of old-stone-age hunters.

Parker and Burkitt (1932) show rock engravings from Nubia, west of the Nile. Figures of ostriches and cattle are included, but the camel is the dominant design.

At a place in Kordofan, 145 miles west-southwest of Omdurman, H. A. MacMichael (1909) made records of rock paintings, including designs of men on horseback, hyenas, and giraffes, some of which have a technique resembling that of Insalah in the northern Sahara. But this technique from Kordofan is not particularly like that of the Bushmen. A. E. Robinson (1934) introduces his pictures from Kordofan and Meroë by summarizing the different techniques. A petroglyph means a picture incised, pecked, or made by percussion on the rock, whereas a petrograph is a drawing made with charcoal or pigment. *Graffiti* (scratches) are included with petroglyphs. As a rule, petrographs are found in caves or rock shelters, but petroglyphs are more frequently carved on exposed rocks. Some of the figures shown are Egyptian petroglyphs of the historic period, but several percussion types of petroglyph from southern Egypt and the Sudan show the ostrich, the elephant, and the giraffe very crudely represented. Judging by style alone, these latter could belong either to a formative or to a degenerate period of the Paleolithic school.

SOUTHEAST AFRICA

The rock paintings of Tanganyika Territory form a geographical, and probably a definite cultural link also, between Bushman rock art of south Africa and pictures of the same style and technique in north Africa. Nash (1929) discovered rock paintings of reddish color near Kondoa Irangi. Some of the drawings are merely outlines, but others have been filled in with pigment. "Most of the work is very crude and unfinished, yet in places quite skilful, especially where animals have been depicted, and that the artists were close observers of nature is shown by the perfect stance and curves which they gave, in particular, to the giraffes." Culwick's (1931b) pictures, painted in white, on the slabs of rock shelters near Bahi, Tanganyika Territory, have a legendary history showing that the paintings were made by men who lived, according to Culwick's genealogy, about 250 years ago. Therefore, the art is of a date too recent to be considered with any examples hitherto discussed. But the ritual, past and present, that Culwick describes in connection with these paintings is of the utmost importance, and it may well be that we have today a glimpse of the magical background that was an incentive to the Paleolithic art of south Europe and north Africa. The paintings function in ceremonies of prayer and sacrifice for producing rain.

The study of rock paintings in Tanganyika is continued by Culwick (1931b), who points out that peculiar objects of stone, not obtainable elsewhere in the neighborhood, were abundant in the shelters where the paintings occurred. The paintings from Singida and other sites cannot be placed in one group, and the chronology of the different styles is uncertain. But in the discussion which followed the reading of the paper, attention was drawn by Culwick and Burkitt to "a close resemblance in style and technique, between many of the Ilongero paintings and those of Rhodesia and south Africa, presumed to be of Bushman origin." My own opinion is that the paintings of animals (Culwick, Plates L-LIII) have in their realism and stance a very impressive resemblance to those forms of so-called Bushman art that we have assembled from north Africa. In type, the paintings are of the school of action and realism which Kühn, Reygasse, and others have classed as Paleolithic. For further information on rock paintings of Tanganyika, see Arundell (1936).

SOUTH AFRICA

In reviewing the literature relating to rock engravings and paintings of south Africa, two points of primary interest are comparison of the works of art *inter se* with a view to establishing a chronology of style, and study of the petrographs and petroglyphs in relation to stone implements of various cultural levels, in the caves or other sites where the pictures occur. Then, more broadly, a comparison of south African art with that of the northern part of the continent, and with southern Europe, is a necessary coordination.

Our historical study of south African paintings may well begin by reading H. Balfour's preface to Tongue's (1909) collection of a hundred Bushman rock paintings and engravings. Balfour states that the greater part of our first-hand information regarding the Bushman is derived from E. W. Stow's "Native Races of South Africa." According to Stow, there were two distinct branches of the Bushman people, who differed in their artistic methods as well as in their customs and language. Although both these groups are supposed to have reached south Africa from the north, they followed different routes. Stow refers to these groups as the Painters or Cave-dwellers and the Sculptors or Kopje-dwellers, respectively. Holub's scheme of four periods of art, three of gradual development and a fourth of decadence, is also mentioned by Balfour, who says that "the evidence upon which he bases his conclusions is not sufficiently clear to warrant acceptance without reserve. There is, however, valuable evidence afforded by patination of the rock sur-

faces, and this serves as a means of distinguishing the earlier examples from the latter, and emphasizes the fact that upon the whole the former are of a higher type than the latter." Balfour's preface, together with Tongue's introduction to the colored plates, gives a valuable résumé of the information available about thirty years ago. Balfour concludes by mentioning the stylistic affinities of Bushman art and that of the cave period of the Paleolithic age in western Europe. He observes that archaeological excavation in caves of south Africa where paintings occur is necessary for investigating a possible cultural and physical relationship between Bushmen and cave dwellers of Europe.

Since the publications of Tongue (1909) and of Moszeik (1910), several compendiums of Bushman art have been issued, and prominent among these is the album of Zelízko, who uses the petroglyphs collected by Holub about fifty years ago. Other albums are those of D. Bleek (1930), who reproduces the rock paintings collected by G. W. Stow, with introduction and descriptive notes; Obermaier and Kühn (1930), whose work deals with rock paintings of southwest Africa; Lebzelter (1930); and Frobenius (1935).

A recent work of conspicuous merit in this field is one by Wilman (1933), who has produced a book which will give the student a general survey of the problems to be solved and the methods that are being adopted. In addition to the representation of many engravings the work contains a large bibliography of 120 names, and a historical introduction which puts the reader in touch with the work accomplished from 1824 to 1933. The distribution of the rock engravings of south Africa is then surveyed, and a map showing the occurrence of the sites is provided.

Wilman's classification for south Africa gives four categories: Class 1 represents the oldest or "classical" styles, depicting animals with which the artists were familiar, as well as human beings, plants, and geometrical patterns. Class 2 contains the engravings which are derivatives from Class 1. In Division 3 the spoors of human beings and animals are represented, while Class 4 consists of scribblings of recent date.

With regard to the chronological sequence of engravings, the majority of the "classical" styles are divisible into groups based on differences in technique, but misleading factors are found in the chemical composition of different rocks. On some surfaces rust and black oxide form readily, and lichens grow quickly, so that an unwarranted impression of old age is given. Differences of opinion

exist respecting the tools used by the engravers, but a feasible hypothesis states that the boart (a form of diamond used for industrial purposes) may have been used.

Who were the engravers? And do the stylistic differences justify an assumption of successive migrations? On the whole, the engravers showed more stylistic diversity than did the painters, yet some resemblance between the products of the engravers and the painters is evident. There are areas where paintings predominate, and localities where engravings are more numerous than paintings. M. Wilman inclines to the view that the early Bushmen to whom the works of art are ascribed were the phylogenetic forerunners of Bushmen who have produced recent engravings, but the osteological evidence for support or refutation of theories is too meager to be convincing. The modern belief that artists were actuated by impulses of magic and religion has possibly been overstressed.

A study of the relative ages of rock paintings—Wilman dealt chiefly with engravings—may be followed from L. H. Wells (1933, pp. 131–157), who describes petrographs in the Cathkin Peak area, Natal. He selects paintings from the cave of the Eland, since these examples adequately illustrate the evolution of style. The series found in the remaining shelters confirmed the sequence found in the cave of the Eland, where, on the evidence of superposition, the paintings may be divided into eight main stages with four minor variations; these stages are then summarized from the earliest to the most recent. Wells finally compares these styles of art with those of the four large stylistic groups of paintings in southern Africa: namely, an eastern group located in Southern Rhodesia, a western group in South West Africa, a central group in the eastern part of the Orange Free State, and a southern group in the Cape Peninsula. Technically and geographically, the Cathkin Peak paintings belong to the central group. All groups, though widely separated geographically and in technique, are the work of peoples having the same cultural background. Discoveries in the cave earth together with the motifs of the paintings indicate that the Cathkin paintings of stages 2–8 were the work of a Bushman physical type, a purely hunting people, using the bow and arrow and practicing a late-stone-age culture. A later cultural factor is shown by paintings indicating the interests of a pastoral people. This distinction we have previously observed in classifying the rock paintings and engravings of north Africa, where the pictures of hunters and game were

described as the oldest Paleolithic type, and those including domestic animals were classed as Neolithic.

As early as the year 1910, J. P. Johnson sought to correlate types of rock petrographs and petroglyphs with specific types of stone implements. He states that "Solutric petroglyphs" and rock paintings are distributed through the length and breadth of south Africa, and that the kind of surface available seemed to determine whether the artists would make engravings or paintings. This statement is, of course, at variance with a theory that correlates each type of art with a definite migration of artists. Johnson describes a primitive series of petroglyphs in the neighborhood of Vereeniging, where characteristic Solutric scrapers of chert are of common occurrence. He gives instructive illustrations that aid our study of style, showing technique which varies from pecking only the outline of an animal to filling in the whole interior of the petroglyph with either fine or coarse pecking. Attention is called to the limitations imposed on the skill of an artist by the difficult process of pecking or grooving with stone tools on a hard rock surface. Painting on a smooth surface obviously gave greater freedom to the craftsman, and in the latter form of art the artist departed from the single object to portray a complex motif, such as a hunting scene. Johnson's work does not, however, reveal any very specific relationship between types of art and patterns of stone implements.

Coordination of the two main branches of archaeological evidence, namely, stone implements and pictorial art, is not yet far advanced for south Africa as a whole, but Armstrong (1931, p. 252) considers the depths at which different pigments were found in the floor of Bambata Cave in Southern Rhodesia. The pencils of hematite and ocher used in making the paintings provide a link between the paintings and the artifacts. The lowest pieces of coloring matter were balls of yellow ocher found at a depth of five feet. Red ocher was not found lower than 3 feet 6 inches, and the brown and red hematites were absent after the 2 foot 6 inch level, though frequent above that datum. The order in which the colors were found corresponds with the superposition of the wall paintings, the oldest being of yellow ocher, the raw supplies of which were found at the greatest depth in the cave floors. "It is noteworthy that the horizon upon which coloring material first occurred and which, presumably, masks the beginning of art in Rhodesia, is the point at which a distinct improvement in the technique of burins was noticed and from which horizon upward they were increasingly abundant." Armstrong

attributes this improvement to a new wave of Neanthropic people, or influence, from the north. "If this correlation between the cave-paintings and the Upper Palaeolithic culture of South Africa is reliable, as I believe it to be, it provides a further and highly important link between it and the Upper Aurignacian of Europe, and supports the evidence for a common origin of both in the region of the Sahara of north Africa."

The correlation of the Bambata cultures and cave paintings is further discussed by Armstrong (pp. 262-273), who finds from excavations near Bambata confirmatory archaeological evidence of the sequence of colors used in cave paintings, and this sequence agrees in color and style with that established for Bambata. The top culture of the Maleme rock shelter was the Wilton, the implements of which prevailed to a depth of six inches; then followed a six-inch sterile layer, and below this an occupation layer containing typical Middle Bambata tools. Below twelve inches, the floor was sterile and the occupation by Neanthropic people appeared to be confined to the Middle Bambata phase.

Following a general survey of stone-age cultures, Burkitt (1928) considers the pictorial art of south Africa (pp. 111-159). His work is one of compilation following a rather brief personal contact with south Africa, but as a general guide the book is of great utility. So also is a brief survey of Rhodesian archaeology by N. Jones (1926), who speaks from long personal acquaintance. He has a section relating to cave paintings and petroglyphs (pp. 66-73). These two works summarize an enormous amount of periodical literature and together they should be a student's *vade mecum*.

With regard to the broader question of prehistoric south African art in relation to that of north Africa, Péringuey (1906) expressed his opinion thirty years ago. He refers to the early records of Barth and reproduces the figures copied by that explorer near Ghadames; this picture Péringuey interprets in the light of present-day Bushman-Hottentot mythology. Péringuey then summarizes some of the arguments in favor of an ancient Paleolithic origin of some north African pictures. He goes further: "The comparison of some of the rock-engravings of Southern Algeria and those of the Sudan with those of Southern Africa, the technique, the subjects reproduced, are strong evidences that the aborigines of the north and those inhabiting at one time South Africa were one race." Again, in both north and south Africa there is in the form of pygmy implements

and bored ostrich-eggshell disks evidence of a new culture—the Neolithic—which is similar in form for the extremes of the continent.

Thirty years that have passed since the preliminary speculations of Péringuey have served only to elaborate and confirm his hypotheses. Such corroboration is to be found in an article by Abbé H. Breuil (1930a), who, following a comparative study of rock art in Spain, north Africa, and south Africa, observes that "one should therefore be prepared to admit a real relationship between the paintings of eastern Spain and those of south Africa." Dart (1925) goes further in his interpretation of the cultural significance of some south African art. Taking evidence of Otto, who copied Bushman paintings from rock shelters of the Kei River Valley in the eastern portion of the Cape Province, Dart finds new historical explanations of peculiar art forms in the hypothesis that certain head-dresses and other peculiarities are the portrayals of visiting foreigners, including Egyptians, Arabs, Mesopotamians. But Otto believes, in opposition to the general consensus of opinion, that Bushman art is indigenous; it was created *in situ*.

In conclusion of the subject of prehistory in south Africa, a presidential address by C. van Riet Lowe (1930) may be quoted to indicate what has been achieved and what remains to be done. Some of his observations respecting the need for more systematic excavations, observation of stratification, and correlation of cultural and human skeletal remains with one another and with the Pleistocene Pluviations, have been previously noted.

With regard to prehistoric art in south Africa, Lowe states that in no area of equal size is there such a wealth and variety of primitive artistic expression. So far as is known, the earliest artists were rock engravers who portrayed some animals, for example, *Bubalus bainii* and *Equus capensis*, which are now extinct. This early art is associated with the Smithfield culture, which has Capsio-Aurignacian and Mousterian affinities. The engravings belong largely to the Lower Smithfield culture, the culture of a Neanthropic folk who replaced the middle-stone-age tribes of south Africa, whose technique was very like that of Mousterian Europe. In the petroglyphic art, in which probably four stages are discernible, there is the naturalistic expression of a hunting people.

In the Union of South Africa, the first rock paintings are to be associated with the Middle phase of the Smithfield culture, and by the time of the Upper Smithfield culture the art of cave painting had expanded both geographically and technically. "Many of them are

indistinguishable from certain Capsian paintings of Eastern Spain. Correlation between this Eastern Spanish and certain phases of South African art is difficult, but there can be little, if any, doubt that these folk had a common origin." The order of succession is summarized: at first the engravers of the Lower Smithfield culture, then the engravers and painters of the Middle Smithfield, and, last of all, the true cave painters of the Upper Smithfield and Wilton. Lowe concludes by urging the necessity for preservation of existing engravings and paintings, and he stresses the need for copying pictures, to be accompanied by careful excavations of the cave floor or other adjacent ground so that the greatly needed task of correlating artifacts and paintings may be expedited.

STONE MONUMENTS AND BUILDINGS

This general title has been selected to designate a great variety of constructions of stone, whose archaeological study has hardly begun. At present only a few miscellaneous notes can be offered respecting the occurrence of circles of upright stones, single megaliths (menhirs), tombs of stone, village enclosures, and hut circles. Topographical distribution of these types, time sequence, associated stone implements, if any, are all matters for future research. Neither do the prehistorians know anything of the physique of the people who were responsible for an extensive use of stone in many areas where the Negro does not now build with that material. To a great extent, the stone builders passed away, leaving either no traditions or only a vague memory.

Various publications give details of archaeological observations on the stone monuments of north Africa, Gambia in west Africa, Nigeria, Abyssinia, and Madagascar. But if the photographs and drawings of these are compared, there is no similarity of technique which suggests that these constructions were the work of immigrants who were culturally similar. It is possible, however, that the intrusions were separated by long intervals, and that each migratory wave had a distinctive type of construction. In some regions, monoliths have been erected, but in other localities the stones are arranged in circles. The stone monuments of north Africa are sometimes regarded as the work of the Mediterranean race, who were part of the Caucasian-Hamitic matrix whose successive intrusions affected Europe as well as Africa.

Bertholon and Chantre (1912, vol. 1, p. 243) state that megalithic sepultures of north Africa have been constructed by a Berber population from the bronze age to advanced historical times. From

observations based on three groups of skulls, containing twenty, three, and three examples, respectively, two main types are distinguishable; namely, a tall, dolichocephalic, long-faced, leptorrhine people, and a brachycephalic people. The human bones associated with megalithic sepultures indicate that the physical types prevailing when the sepultures were erected were much the same as extant types in the same region.

Meek (1925, vol. 1, p. 55) notes a wide distribution of circular stone walls, which are specially abundant on the Bauchi Plateau. At Naraguta the circles are clearly the remains of huts whose builders used more stone than is commonly used by tribes today. Some of the larger circles were no doubt temporary granaries similar to those used by the Angas at present. Other enclosures were probably cattle kraals, and a stone enclosure on a hill may have been a fort. Meek also refers to an extant custom of the Gwari of Fuka, who surround their graves with circular stone walls having an upright monolith. In the Ba-Ron district of Bauchi Province, stone bridges occur, and of the origin of these the local residents profess ignorance. Meek thinks that stone walling may be the work of Jukun invaders, and that circular forts may have been built in the middle of the sixteenth century.

Monteil (1932, pp. 27-29) reviews some of the observations of his compatriots in west Africa and quotes M. de Gironcourt as the discoverer of two types of primitive funerary monuments of stone. The first group includes lithic structures, each composed of four stones arranged in a square. Tradition speaks of one stone as male, the others as females. The second type of monument consists of three long steles with rounded extremities, almost two meters high. The material does not occur locally but can be traced to Débo whence it was transported to Djénné. These tombs of chiefs are probably not more than a thousand years old.

Maxwell (1898) and J. L. Todd (1903) briefly referred to stone circles of Gambia, and more recently H. Parker (1923) calls attention to two distinct types of stone monuments in that region. In addition to menhirs (isolated upright stones), circles of stone pillars have been recorded. The rate at which the soil rises and tends to cover the fallen pillars is not known, but the general conclusion does not favor extreme antiquity. P. Laforgue (1931) pictures successive waves of stone-building immigrants from north to west Africa, and Parker favors a hypothesis of Carthaginian origin.

The Yoloofs, a present-day tribe of Gambia, associate stone circles with the Earth Spirit, and resentment against excavation prevails. The statement that some of the builders of these monuments were acquainted with iron, rests on the single discovery of a barbed iron spearhead in undisturbed soil within one of the circles. Parker supports his Carthaginian hypothesis by mentioning the skill of the builders, the oval forms of the stones used, and the presence of holes in the tops of the upright stones. Possibly these holes were the containers of oil for primitive lamps such as the Carthaginians used.

Hambly (1934, p. 207) records the existence of stone-built structures in west-central Angola:

"One of the sites has such a commanding view over extensive plains and valleys that the position would be almost impregnable. At the present day the line of fortifications is well marked by stone walls three feet high. These are composed of boulders to which the builders had ready access on adjacent hillsides. Large stones were no doubt rolled from the slopes to the small plateau chosen as a building site. This small plain lies midway between the hill crest and the valley.

"At present this old site, which is enclosed by lichen-covered walls, is overgrown by tall grass and trees attaining twenty feet in height. Photography would be uninformative unless a preliminary clearance were made—a formidable task owing to the density of vegetation.

"In the center of the enclosure is a group of transported boulders possibly marking the site of a place of assembly. A search among the long grass reveals stone slabs and cylindrical crushers which were used for grinding grain over a very long period, as may be seen by the wear on the base stone; some thick stones are so worn as to be almost perforated. Weather-worn stones that were probably used as scrapers are to be found. Surface potsherds are of the material of which present-day Ovimbundu women make their cooking pots. These sherds mark the places now used by small nomadic bands, hence the surface pottery may have no connection with pre-Umbundu culture.

"In the vicinity of this walled stone village are hillside cairns marking the sites of graves. These have been robbed by medicine-men in search of material for their charms.

"The Ovimbundu have no traditions regarding the site, neither is there legendary or other evidence to show that the Ovimbundu ever made their villages of stone. The raising of a cairn of stones

over the body of a hunter is, however, a present-day practice near Ganda and in the Esele country."

At present, one can do no more than call attention to recent records of building in stone, and the recording of the instances together here carries no implication of cultural connection. The data available represent the primary stage of observation, merely the recording of some archaeological puzzles, a stage through which prehistorians passed in their first contacts with stone implements and with rock pictures.

Megalithic monuments of Abyssinia have been discussed by Neuville (1928), who refers to the researches of Verneau, Pottier, Kammerer, and Chudeau. The article shows how purely speculative are the classifications according to designs, and there is no sure foundation of archaeological or paleontological evidence on which to build a chronology; local tradition is almost entirely lacking. A comprehensive work by Azaïs and Chambard (1931) gives data of interest concerning the outward forms and the geographical distribution of such megalithic monuments as dolmens, remains of ancient towns, tumuli, menhirs, and anthropomorphic stones, but historically a reader is left where he began. Azaïs (p. 179) gives the views of M. Bénédite, who ascribes some of the stones to a cultural period of Egyptian origin, and of M. M. Pottier, who regards the Abyssinian lithic structures as part of a megalithic culture that spread from Asia to north and east Africa, and to western Europe, but whether to Africa first is unknown (p. 241). Evans-Pritchard (1935) has made a study of megalithic grave monuments in the Anglo-Egyptian Sudan, and it is possible that some of these are historically and culturally allied to some of the Abyssinian types.

This question of the migration is an old, unsolved archaeological problem which was to the fore at the meetings of the British Association in 1912. Here G. Elliot Smith gave some points in favor of a migration of culture carriers with a tendency toward megalithic construction. Such a view, he argues, is more reasonable than that which postulates that every society has, at some stage of cultural development, a tendency toward megalithic building. Peet (1912) again stresses Elliot Smith's contention that the megaliths are often of like form and that they follow the natural routes of migration along littoral regions and not in the interiors. Peet thinks that the theory of trade relationships in the Neolithic period is inadequate to account for such a widely distributed method of megalithic building, which was often associated with burial. He concludes: "There

remains the explanation that megalithic architecture was practiced by some great race which at the end of the Neolithic age spread over parts of Europe, Asia, and Africa, carrying this method of building with it."

Supporters of such a theory of migration might find evidence in a paper contributed by A. L. Lewis, who describes stone monuments found in Madagascar. He summarizes the views of several archaeologists who have diverse opinions on the origin and function of Madagascan megaliths. Baudoin, quoted by Lewis, thinks that some stones are of great antiquity, and that they were erected by sun worshippers.

On the contrary, certain local traditions point to the erection of the monuments only a few centuries ago in order to commemorate tribal victories. A large stone with a small one at the side is said to represent a conqueror and his vassal; other stones are regarded as tokens of gratitude to a chief or were erected to mark the founding of a new village. To assure fertility and easy parturition women grease the stones and rub against them. Stones placed as grave markers are connected with a cult of ancestors, and a person seeking ancestral protection rubs his hands on the effigy or sucks the breasts. Linton (1933, pp. 180-184, 197, 199) adduces some evidence respecting the erection of memorial stones and tombstones. This is a present-day practice for which are given some valuable details showing the method of transporting a heavy menhir. All the Menabe clan memorial stones are used as places of sacrifice, but sacrifice to the gens ancestors as a group is not the purpose of their erection.

In Madagascar, as elsewhere, megaliths have no doubt served various purposes and no single statement will suffice to describe the periods, the types of stones, and their several functions. A very ancient uniform practice would probably give rise to diverse forms of building, and to the origin of new ideas in association with these. One may be assured that the historical explanation of existing megaliths with attendant beliefs and ceremonies is not a simple one. Linton has, however, made a valuable contribution in recording extant customs, since these, though perhaps recently revived, may be a recurrence of ancient traits.

Within the past few years, several observers have called attention to building with stones that are placed together without cement. The Negro does not often build with stone today, and he seldom has any clear tradition of his forebears who brought together large boulders to form hut circles and village walls. Data relating to these

are so meager that no estimate of age is possible, and there exists no evidence to connect utilitarian building in stone with the erection of megaliths which, so far as the evidence goes, were ceremonial.

Records by Trevor (1930) of stone building in south Africa include a mention of stone-built villages which are found all over the Transvaal; in the Lydenburg district there are some stone-built kraals. With regard to the largest of these kraals, "neither the Boers nor the natives knew who had built it or what purpose it had served. It was there when the white man arrived—that is all that is known about it." The other items, all presumably relics of an extinct civilization, are dressed-stone building, conical towers, the use of curved batter, stone circles, terraced hills, and evidences of irrigation. A report on the stone huts of Vechtkop (Lowe, 1927) leads to the conclusion that these were built by the Leghoya or Bataung, who were Bantu invaders from the north early in the eighteenth century. This gives a very recent setting to the stone building of that area.

A detailed study of terracing and irrigation of unknown date has been undertaken by G. E. H. Wilson (1932), who gives a map showing the distribution of these traits from Kenya to Nyasaland. The remains of these ancient works occur in Tanganyika, Abyssinia, Uganda, Kenya, and Northern Rhodesia, so forming a chain of evidence from north to south down a migratory route of the Rift Valley. But the question of construction of these works remains unanswered. The art of terracing is not lost, however; it still survives in Tanganyika in the neighborhood of Meru and Kilimanjaro. The Wambulu (Iraku) in the north and the Wabena of the south follow the practice. Tradition speaks of an alien and dominant race described by the words "tall," "bearded," and "enemy" or "stranger." A people called the Wamea are spoken of in connection with the ancient agricultural system and with the origin of rock paintings at Bahi. From the growth of large trees on the top of the terracing at Mufindi, Iringa Province, one may assume that the terrace was abandoned at least nine hundred years ago. Wilson attaches much importance to the fact that "wherever this ancient system of agriculture either exists or has not yet been forgotten, there are place-names beginning with 'Ru' foreign to the present nomenclature." *Ex hypothesi*, the old civilization came from the north and spread its influence along the Rift Valley and over the highlands surrounding the Great Lakes, until it perhaps reached Zimbabwe and "eventually developed into a great and separate nation, whose fame, reaching the seafaring peoples of the Red Sea and Persian Gulf, caused them to establish

trade routes and build factories, such as Rhapta, in order to open up communication and exploit the East Coast trade."

This civilization of east Africa has been more recently discussed by Huntingford (1933), who refers to substantial enclosures of stone, hut circles, revetted walls, properly engineered roads, and irrigation. This combination he refers to as the Azanian culture, in order to distinguish it from stone-age cultures and Islamic ruins. Following a description of these evidences of civilization come the questions, who were the Azanians and when did they flourish? No definite answer can be given, but Huntingford surmises that a civilization which flourished in the Horn of Africa at some time during the first seven hundred years A.D. was destroyed by Islam, that its makers retreated southward through Kenya (where Islam never penetrated), and that the culture came to an end somewhere about the fourteenth or fifteenth century, possibly earlier. That the civilization was of Hamitic rather than Bantu origin seems to be an unescapable conclusion. Huntingford agrees with Wilson that the Azanians were probably connected with the establishment of seaports named Adule (modern Zeila), Aromatophora (spice market), and Rhapta, though the time of origin and the present locations of these sites are not certain.

Evidently the tentative dating of this well-developed stone-building culture of east and south Africa, if correct, does not justify the inclusion of the discoveries with prehistoric archaeology, since the time suggested for the building is well within our own era. Zimbabwe, which may represent the acme of this period of construction in stone, I have grouped with historical data, because the most recent pronouncement relegated the structures to a period between the ninth and thirteenth centuries of our era.

With the exception of descriptions of Zimbabwe stone buildings, all important accounts of construction in stone have been written during recent years, so introducing a new field of inquiry into the antiquity, the somatic characters, the migrations, and the other traits of the culture carriers, much of whose work is now to be classed as a lost art. The details recorded indicate that any attempt to establish a cultural or chronological unity between the types of stone buildings, whether menhirs, dolmens, or walled enclosures, would be premature. On the grounds of typology, two major divisions, possibly representing two distinct incursions of stone-using people, are discernible. On the one hand, the dolmen-menhir type of structure may be ascribable to truly prehistoric and Neolithic

invaders who traveled along the north of the continent and down the east side as far as Madagascar. On the other hand, the miscellaneous remains of utilitarian building in stone may be the survival of an early kind of construction, discouraged and finally supplanted by other methods brought by later migrants.

That utilitarian building in stone, as well as the erection of ceremonial stones, might have several independent centers of development is not impossible; but by inference from the general data of invention and diffusion as seen in both ancient and modern times, and with due regard to the nature of the African routes along which the principal stone erections occur, a succession of independent mutations is far less likely than a gradual penetration of cultures which assumed local variations as the immigrant waves advanced. The extent of country over which the traits are manifest, and the association of several traits in east Africa, definitely suggest human migration on a considerable scale rather than the handing on of traits by casual travel.

CONCLUSION

The foregoing summary has attempted to show that considerable progress has been made in the study of African archaeology since the first observations of stone implements were recorded. Such knowledge as we have has been built up during half a century, but only in the past decade has there been methodical concentration, a visualizing of the problems, and an attempt to correlate the studies of geology, paleontology, and archaeology.

More than a correlation of subjects is needed, however, and an attempt has been made to unify observations from southern Europe and from widely separated parts of Africa (Menghin, 1931, pp. 48, 51, 53).

The advance has been considerable, but an enormous amount of systematic excavation remains to be done everywhere, especially in west and central Africa. With the task of exploring sites, the work of correlating the evidence of climatic change, geological stratification, types of implements, rock pictures, and fossilized human bones, must advance *pari passu*.

The weakest link in the chain is the paleontological evidence respecting the somatic characters of the creators and carriers of the cultures we have discussed. The total amount of evidence respecting the physical appearance of African races through the Pleistocene is woefully small, and if the ultimate aim of archaeological research

is to give definite information concerning human beings, their cultures and wanderings, we must regard the occurrence of human skeletons as being the crucial evidence for prehistoric migrations.

The importance of typology has been stressed by Gorodkov (1933), and the necessity for classification cannot be denied. But, as Hooton says (1936, p. 104), the typological delusion can be "a sort of auto-hypnosis brought on by too concentrated and prolonged gazing upon a single class of archaeological objects, as into a crystal. The archaeologist begins to see things which are not there."

It is undoubtedly true that, despite the value of type studies of implements and rock pictures, and the association of these with one another and with the geological evidence, further anatomical material is essential. If the main purpose of archaeology is to give information concerning past races and their migrations, then the crucial evidence is the discovery of unchallengeable anatomical evidence. Until such testimony is forthcoming, we have to rely for our inferences on the indirect testimony of like stone-age cultures, their comparable geological sequences, and the stylistic affinities of prehistoric art in various regions.

Leakey (1936a), "Stone Age Africa," gives a summary of the archaeology of the continent as a whole. Since my own compilation and that of Leakey were produced quite independently they should prove to be useful complementary studies. Leakey's work contains an extensive bibliography.

IV. PHYSICAL ANTHROPOLOGY

TECHNIQUE

In our endeavor to present a clear picture of the somatic traits of African peoples of the present day, many theoretical questions have been reserved until the final section of the chapter. There is one difficulty, however—that of nomenclature—that cannot be postponed. We will at present avoid the use of the word *race* and speak of people, employing the word according to general everyday usage in the sense of persons or individuals. This will avoid the assumption that “*race*” has a clear connotation, and that definite biological ideas may be legitimately connected with the word.

Unfortunately, there are in African ethnology some terms of unscientific origin which have been loosely employed with various biological, linguistic, and cultural implications. Our present concern is only with the use of the terms Hamitic, Semitic, Pygmy, Bushman, Hottentot, and Negro in their relation to physical anthropology.

Further advances in anthropometry will no doubt provide an improved terminology, but until that is available the old nomenclature, with certain explanations, may be made to serve our purpose. Let us for the present avoid the difficulty of precise definition, and of speculation respecting origins, by glancing at the series of pictures accompanying this chapter. If, in addition to making a careful inspection of these physical types, a student will turn to the following works, he will have in mind a clear mental picture of the general somatic traits that are associated with the terms used to designate people of different phylogeny and geographical distribution.

Of considerable pictorial value and in some instances of statistical importance are the works of Weninger (1927), Fülleborne (1906), Duggan-Cronin (1928-37), H. H. Johnston (1902a), and Weiss (1910). Bernatzik (1929) has published some remarkably fine studies of Nilotic Negroes. These references, in conjunction with Hambly (1934a and 1935a), will give a clear idea of Negro types in all parts of Africa. Barnard (1923) and Hambly (1930a) have brought together a variety of pictorial types in popular presentations.

For Hamitic types of east Africa, C. G. Seligman (1913, 1917, 1925) and Cerulli (1935) should be consulted, while the work of Paulitschke (1888) contains excellent photographs of eastern Hamitic types.

Bertholon and Chantre (1912), also Coon (1931), provide numerous illustrations of Hamitic and Semitic types of north Africa, while Field (1935) has published a valuable statistical and pictorial source book for Semitic types, which may be regarded as the matrix from which African Semites were derived.

Hoefer (1930) has produced some excellent illustrations of Ituri Pygmies, and more recently Schebesta and Lebzelter (1933) have supplemented their statistical study of Pygmies with a collection of photographs. For Bushman types, the best available are those taken by the Vernay-Lang Kalahari Expedition of Field Museum (Figs. 45-47).

But more than a general mental impression of types is demanded; therefore, to give precision to ideas of physical development some statistical work is necessary, and here another difficulty is encountered. The fact is astonishing that, taking Africa as a whole, we have at our disposal very few series of anthropometric averages based on as many as one hundred individuals in the group. A series consisting of a hundred is usually considered to be a minimum for the working out of averages that can be safely regarded as a fair sample. When, in addition to this obstacle of paucity of data, we add doubts as to the method of sampling and the techniques adopted in taking the measurements, the data for comparative statistical study are small. Yet some legitimate samples of anthropometry exist, and other figures, if not relied upon too confidently, can be of value in showing general somatic trends.

For understanding the data of this chapter, R. Martin's "Lehrbuch der Anthropologie" (1928) is of great service. Hrdlicka (1920), and Stibbe (1930) have produced elementary textbooks of physical anthropology, while L. H. D. Buxton (1932) and Buxton and Morant (1933) have written useful articles on the standardization of technique. For statistical work, Udny Yule (1912, 1924) is still sound, but Fisher (1932) and Gavett (1937) are regarded as the most useful of recent textbooks on statistics. So far as I am aware, no physical anthropologist has prepared a textbook of statistical method as applied to physical anthropology. At present, a student must learn his general principles and apply them to anthropometric data, but for the non-mathematical a textbook simplifying the erudite articles of "Biometrika" and translating some of them into clear arithmetical examples would be welcome. There is a great need for a textbook of statistics written entirely for the student of physical anthropology.

With regard to our tentative classification of physical types, which is based on pictorial study, the following divisions will serve as a basis for comparisons:

- (1) Negroes, western, central, eastern, southern, Nilotic.
- (2) Khoisan People (Bushmen and Hottentots).
- (3) Pygmies (chiefly of the Ituri Forest).
- (4) Hamites, northern (Berbers and Tuareg) and eastern (Somali, Beja, Hadendoa), Half-Hamites (the Masai).
- (5) Semites (Bedouin and other Arabs, Kababish of Kordofan).

In connection with this research, an explanation of terms used in describing living subjects is necessary. Statures are given in millimeters, and conversion to inches is readily made by taking 2.5 cm. to one inch. The cephalic index (C.I.) is a figure expressing the percentage relation of the maximum breadth of a head to the maximum length. The nasal index (N.I.) expresses the relationship of the breadth of the nose to the length.

In A. C. Haddon's tables (1925, p. 9), persons under 1480 mm. (58.25 inches) in height are said to be of pygmy stature. A measurement between 1480 and 1580 mm. (58.25-62.25 inches) indicates short stature. Persons of medium stature have height measurements between 1580 and 1680 mm. (62.25-66 inches). Tall people have a stature between 1680 and 1720 mm. (66-67.75 inches) or more.

Head measurements made in many parts of the world show that most people have cephalic indices between 70 and 85. An index of 75 and under indicates a long head (dolichocephaly). Indices between 75 and 80 express a medium formation (mesocephaly). Broad-headed (brachycephalic) persons have cephalic indices of 80 and above.

Nasal indices between 55 and 70 indicate narrow noses (leptorrhine condition). Mesorrhine noses, that is, noses of medium breadth, have indices between 71 and 85. Platyrrhine noses have indices from 86 to 100. Seligman (1930, Appendix II, p. 252) gives a conversion table in inches and meters.

NEGROES

Before considering the differences of measurement in topographical groups of Negroes some attempt should be made to summarize the salient physical features of the Negro group as a whole. T. W. Todd (1928) in a search for specific bodily Negro features speaks of the proportions of the pelvis, the nose, the lips, and the interpupillary distance as "entrenched." American Negroes have long arms com-

pared with the whites, and arm length is the controlling factor for length and breadth of the hand. The Negro has a narrow pelvis expressed in terms of his torso; the pelvis is narrow absolutely and relatively. The forearm of the Negro is a little long, the upper arm a little short compared with the proportions in white people.

Furthermore, T. W. Todd (1929, p. 67) states: "We have been forced to the conclusion that, in our Negro hybrids, some features are more stable or more firmly entrenched than others, and that these features are mostly to be found in the face. Shall we conclude that this is a result of differential stability of hereditary pattern, or are we to assume that increasing homogeneity of our Negroes [see Herskovits, 1928] is bringing about this stability of African form? Both factors may be at work. But since traits cannot again be imprinted in a stock from which they have once been expunged, the features in question must belong to the hereditary pattern."

Figures 25 and 26 illustrate the more important somatic traits of the Negro, which have been summarized by Hooton (1931, p. 512). Stature, robustness of torso, and length of limbs, are variable from one topographical group to another. To take two extremes, the Kru of Liberia are thick-set and of medium height, while the Vakwanyama of south Angola are tall and slender. Nevertheless, Hooton's summary gives the more important traits which can be regarded as truly characteristic of Negroes. The hair is woolly, black, coarse in texture, short on the head and sparsely developed on the face and body. The skin color is dark brown (Ovimbundu) or nearly black (Dinkas), and the eye is similarly pigmented. There is pronounced facial protrusion (prognathism), and the lips are thick, puffy, and everted. The bridge of the nose is low, broad, and short, while the alae of the nostrils are thick and flaring; the nasal index is always in the platyrrhine group. The profile is concave or straight, rarely convex. These facial traits are clearly shown in the picture of a Bini of southern Nigeria (Fig. 25, a).

Since our analysis is concerned chiefly with modal values, as indicated by frequency distributions that illustrate general trends, mathematical averages with their standard deviations and standard errors are unnecessary. But for those who wish to make a more thorough comparison of arithmetic means, two formulae are of service. For comparing fairly large groups in a population in order to determine whether the observed differences are significant, or whether they might have arisen from random sampling, the formula

$$M_1 - M_2 > 3 \sqrt{(PE_1)^2 + (PE_2)^2}$$

is appropriate. For comparing the averages of small groups to test the significance of the difference of the means, Fisher (1932, pp. 120-124) uses the *t* test by use of the formula

$$\frac{\Delta}{\sigma \sqrt{\frac{n_1 \times n_2}{n_1 + n_2}}} = t$$

where Δ is the difference of the means, σ the standard deviation of all the terms in the two series, and n_1, n_2 the number of terms in each series.

Confining ourselves to the general class distribution of values for height, cephalic index, and nasal index of males only, we can compare these values for Negroes of different *geographical* regions. The terms "Bantu" and "Sudanic" Negroes should, if possible, be avoided in connection with divisions based on somatic traits, since the words have a definite linguistic connotation. Continued research may, however, justify the association of the terms "Bantu" and "Sudanic" with definitely different series of measurements, since somatic differences do exist between Negroes of the two main linguistic divisions, and within each of the groups. But paucity of anthropometric data prevents us from making definite statements that would at present correlate types of physique with linguistic divisions.

WESTERN NEGROES

(Table 1)

Stature.—The longest series available are the 100 Bambara, Tukolor, and others measured by Weninger (1927), and the 100 Hausa measured by Tremearne (1911). Weninger's subjects were sampled from several tribes representing a wide area, as his map shows. With regard to Tremearne's data, the word Hausa is linguistic, and both Sudanic and Hamitic elements are in the speech. Moreover, as Tremearne points out, his subjects were gathered from a fairly wide area. These are, however, the largest and most homogeneous samples we have from the western Negro region.

Taking first the stature, we find that 28 per cent of Weninger's subjects have a modal stature of 1650-1700 mm., and 41 per cent are in the tall and very tall classes; about 10 per cent are short. Among Tremearne's Hausa, the height frequently is as follows: Less than 9 per cent are short, 77 per cent are medium to tall, and 14 per cent are very tall, giving measurements between 1750-1900 mm. Both Weninger's and Tremearne's men have the same modal value for height, namely, 1650-1700 mm. In Cameroons, the stature seems to fall somewhat if we take the frequency distribution of *groups*



a



b

FIG. 25. Negro types, Ogbomosho, Nigeria. *a*. Bini man. *b*. Jekri youth.



a



b

FIG. 26. Negro types, Ovimbundu, Angola. *a*. Modified Negro type. *b*. Typical Negro features.

TABLE 1
NEGROES OF WESTERN AFRICA

REGIONS TRIBES LOCALITIES	STATURE	CEPHALIC INDEX	NASAL INDEX	SOURCES AND REMARKS
<i>West</i>				
Balante (75).....	....	....	86.5	Bernatzik (1932)
Pepel (37).....	....	....	85.8	
Felup (38).....	....	....	86.7	
Pepel (19).....	1693	74.7	....
Bidyogo (19).....	1649	74.4	....
Ekoi (24).....	1687	76.2	95.9	Talbot (1912, p. 414)
Kabila (10).....	1717	74.0	99.2	Talbot (1912)
Ekuri (20).....	1654	74.6	108.3	
Korawp (17).....	1644	74.9	99.3	
Munshi (29).....	....	76.4	96.6	Malcolm (1920a)
Yolofs (84).....	....	74.3-76.0	....	Struck (1922), collated from various sources. Range of averages.
Legbu (34).....				
Mossi (103).....				
Ashanti (92).....				
Hausa (Kano) (94).....				
Vai (60).....				
Bambara, Tukolor, and other tribes (100).....	1550-1600 (10) 1600-1650 (21) 1650-1700 (28) 1700-1750 (18) 1750-1800 (20) Above 1800 (3) 1688 (av.)	60-65 (1) 65-70 (5) 70-75 (50) 75-80 (39) 80-85 (5) 74.6 (av.)	60-70 (1) 70-80 (7) 80-90 (32) 90-100 (33) 100-110 (20) 110-120 (4) 120-130 (3) 92.9 (av.)	Weninger (1927). Averages, and frequency distribution of individual measurements.

TABLE 1—Continued

NEGROES OF WESTERN AFRICA

REGIONS TRIBES LOCALITIES	STATURE	CEPHALIC INDEX	NASAL INDEX	SOURCES AND REMARKS
<i>West</i>				
Ashanti (48)	1642	77.5	95.2	Rattray (1923, p. 334)
	1500-1550(1)	65-70(8)	65-70(2)	Tremearne (1911). Averages and frequency distribution of <i>individual</i> measurements.
	1550-1600(8)	70-75(51)	70-75(9)	
	1600-1650(22)	75-80(27)	75-80(11)	
	1650-1700(35)	80-85(3)	80-85(11)	
	1700-1750(20)	85-90(3)	85-90(17)	
	1750-1800(8)	90-95(1)	90-95(19)	
	1800-1850(5)	95-100(5)	95-100(19)	
	1850-1900(1)	Above 100 (2)	100-105(7)	
	1684 (av.)	75.4 (av.)	105-110(4)	
			110-115(0)	
			115-120(1)	
			90.0 (av.)	
	<i>Age 20-25</i>			Ruelle (1904, pp. 524, 538)
	Mossi (45) 1711			
	Lobi (21) 1750			
	<i>Age 25-35</i>			
	Mossi (30) 1707	74.6	104.6	
	Lobi (32) 1763	74.4	102.7	Talbot (1916)
	<i>Average all ages</i>	(Lobi)	(Lobi)	
	Mossi 1712			
	Lobi 1754			
	Kanembu (4)	71.7	92.7	{
	Buduma (32)	72.3	97.9	
				{
	Buduma (132) .....	....	....
				Montandon (1928, p. 241), quotes Gaillard and Pourrin.

TABLE 1—*Concluded*
NEGROES OF WESTERN AFRICA

REGIONS · TRIBES LOCALITIES	STATURE	CEPHALIC INDEX	NASAL INDEX	SOURCES AND REMARKS
<i>West</i>				
Bagirmi (21).....	1762	74.1	97.7	{ Talbot (1916)
Banana (11).....	1785	77.3	103.2	
Mundong (20).....	1723	73.8	103.0	
Cameroons.....	1500-1550(1)	75-76(1)	75-80(4)	{ Montandon (1928, pp. 242-243, 263, 279), quoting Malcolm and others. Frequency distributions of <i>group</i> averages. Stature, 16 groups; C.I., 19 groups; N.I., 19 groups.
	1550-1600(0)	76-77(4)	80-85(6)	
	1600-1650(7)	77-78(4)	85-90(6)	
	1650-1750(5)	78-79(5)	90-95(3)	
	1700-1750(3)	79-80(3)	90-95(3)	
Cameroons.....	1500-1550(1)	70-75(5)	65-70(1)	{ Malcolm (1925c, p. 39). The groups comprise 293 males. Frequency distribution of <i>group</i> averages. Stature, 40 groups; C.I., 40 groups; N.I., 39 groups.
	1550-1600(2)	75-80(31)	70-75(5)	
	1600-1650(18)	80-85(4)	75-80(12)	
	1650-1700(8)		80-85(10)	
	1700-1750(8)		85-90(9)	
Cameroons (Bokis, 100).....	70-75(27)	{ Mansfeld (1908, Tables C, H, H3). Frequency distribution for cranial indices of 100 <i>individuals</i> .
	.....	75-80(56)	.....
	.....	80-85(17)	.....
Ekoi (20).....	1644 (av.)	75.3	89.7	{ Mansfeld (1908). Averages for 20 <i>individuals</i> .
Cameroons.....	75-77(38.3) 77-81(61.6)	{ Struck (1922). Percentage frequencies of averages for 61 <i>tribes</i> (831 males).

(not individuals) given by Montandon (1928) and by Malcolm (1925c). Montandon's data contain the figures of Malcolm and other observers. Malcolm gives forty groups (based on different numbers of measurements, all of them small), and eighteen of these groups, that is, nearly 50 per cent, are in the class interval 1600–1650 mm., that is, one interval lower than the modal value of Weninger's and Tremearne's samples. Considering sixteen groups (comprising 188 males), Montandon's figures show that seven of these groups, about 50 per cent, fall in the class interval 1600–1650 mm. The Cameroons samples show a definite lowering of stature compared with more westerly groups of Weninger and Tremearne.

Between Cameroons and the far west is the mid-course of the Niger, where Ruelle (1904) measured 100 Mossi and 78 Lobi. The former gave an average height of 1712 mm., and the latter 1754 mm., both definitely in the tall class.

Figures given by Talbot (1916) show definitely a tall strain in the Kanembu, Buduma, and other tribes near Lake Chad. The six averages given are for five different tribes; there are two samples for the Buduma with 12 mm. difference. One sample for Buduma (32) gives 1742 mm. as the average, and the other sample (132) gives 1730 mm. as the average stature. The range of averages is therefore 1723 (Mundong tribe) to 1785 mm. (Banana tribe); all are definitely tall.

The general impression is that the Negroes of the west are upper medium to tall except in Cameroons, where the medium height 1600–1650 prevails.

Cephalic Index.—Let us consider the cephalic index for these western groups. Beginning again with our best samples, we find that 50 per cent of Weninger's Negroes have a C.I. of 70–75, and 39 per cent fall in the class interval 75–80 per cent. These two intervals account for 89 per cent of the sample. With an index lower than 70 there are only 6 per cent, and with an index above 80 there are only 5 per cent. The average C.I. is 74.6. The sample is predominantly dolichocephalic (50 per cent) with a strong mesaticephalic (39 per cent) tendency.

In Tremearne's (1911) sample 51 per cent are dolichocephalic (C.I. 70–75) and 27 per cent mesaticephalic (C.I. 75–80). This distribution is almost identical with that of Weninger's sample.

In the Cameroons samples a change in the frequency distribution of head form can be observed, for in comparison with the populations sampled by Weninger and Tremearne, the Cameroons population

tends toward brachycephaly. Of the forty *groups* (not individuals) recorded by Malcolm, thirty-one (77.5 per cent) have averages that bring them into the mesaticephalic class (C.I. 75–80). Of nineteen group averages given by Montandon, seventeen are in the class interval 75–80. Therefore, despite the fact that the averages of many groups are based on small numbers, the general tendency toward brachycephaly cannot be doubted. Struck's (1922) data for cephalic indices in the Cameroons relate to sixty-one tribes, and 831 men contributed to the series; the number of measurements are not, however, distributed evenly among the sixty-one tribes represented. There are 61.6 per cent of the samples having the fairly high C.I. of 77–81. The Mossi and the Lobi of the mid-west region have dolichocephalic indices of 74.6 and 74.4 respectively, and the Lake Chad tribes measured by Talbot have, with the exception of the Banana (C.I. 77.3), a range of average indices from 71.7 for the Kanembu to 74.1 for the Bagirimi.

Nasal Index.—A large number (85 per cent) of Weninger's Negroes had a nasal index between 80 and 110. The most important class intervals are 90–100 with 33 per cent of the population, and almost as large is the 80–90 class interval with 32 per cent of the population. The figures for Tremearne's Hausa indicate that their noses are narrower than among Weninger's Negroes. A glance at the Hausa (Fig. 59) shows modification of Negro features as compared with the Bini (Fig. 25, *a*), who is a typical Negro. Whereas only 7 per cent of Weninger's Negroes were in the 70–80 class interval, as many as 20 per cent, nearly three times as many, of Tremearne's Hausa have a N.I. from 70–80, which is low for a Negro population. There is no mistaking the change in the trend of the figures, for the shift of values in the Hausa curve is clearly toward the lower class intervals when compared with the Weninger Negro curve.

The adequate samples of Ruelle give N.I. 104.6 for the Mossi and 102.7 for the Lobi; these tribes are therefore in the higher ranges of platyrrhine intervals. About 20 per cent of Weninger's Negroes were in the class interval of N.I. 100–110, but only 11 per cent of Tremearne's Hausa were in this hyperplatyrrhine class. Talbot's series have ranges of tribal averages varying from N.I. 92.7 to 108.3.

CENTRAL NEGROES

(Table 2)

Stature.—Inspection of the averages of stature for Belgian Congo tribes reveals the general prevalence of medium stature, and some tribes show an average close to the "short" division (1480–1580 mm.).

TABLE 2

NEGROES OF CENTRAL AFRICA

REGIONS TRIBES LOCALITIES	STATURE	CEPHALIC INDEX	NASAL INDEX	SOURCES AND REMARKS
<i>Central (Belgian Congo Region)</i>				
Bushongo (18).....	1747	78.1	91.0	{ Keith (1911), analyzing data of Tor- day, Joyce, Talbot, and Corner.
Batetela (70).....		79.1		{ Struck (1922), Keith (1911), Mon- tandon (1928), quoting Jaques and others.
Basoko (11).....	1656	80.3	100.0	
Bangala (59).....	1671	76.8	100.8	
Bangala (70).....	1685	77.0	....
Azande (217).....	1701	78.2	82.5	{ Montandon (1928), quoting Czeka- nowski.
Babira (342).....	1605	77.2	89.7	{ Montandon (1928), quoting Czeka- nowski.
Bakondjo (297).....	1592	78.3	85.0	
Momvou (241).....	1638	77.9	83.0	
Congo—general data for cranial indices.		71-74(4) 77-78(25) 74-75(11) 78-79(20) 75-76(7) 79-80(20) 76-77(16) 80-83(16)		
Belgian Congo—summarized fig- ures for various groups.	1500-1550(2)	72-73(1)	75- 80(5)	{ Montandon (1928, pp. 243-244, 264- 265, 276-277), quoting Czeka- nowski and others. The figures given are frequency distributions for group averages. 1834 males contributed. Stature, 37 group averages; C.I., 59 group averages; N.I., 47 group averages.
	1550-1600(15)	73-74(1)	80- 85(10)	
	1600-1650(8)	74-75(3)	85- 90(16)	
	1650-1700(11)	75-76(4)	90- 95(9)	
	1700-1750(1)	76-77(7)	95-100(5)	
			100-105(2)	

The Basoko, Bangala, and Momvou are of medium stature, with averages of 1656, 1671, and 1638 mm. respectively. The tribes nearing the "short" class are the Babira (1605 mm.) and the Bakondjo (1592 mm.). Two tall groups are present; namely, the Azande in the northeast, with an average of 1701 mm., and the Bushongo in the southwest, with an average stature of 1747 mm. Possibly the explanation of this stature distribution may be that the Azande have inherited a trait of their near neighbors, the Nilotic Negroes. As for the Bushongo, their traditions refer to migration from the northeast, where the high statures occur. The medium to short statures of other tribes may be due to infusion of a Pygmy strain, for current hypothesis states that Pygmies were at one time much more widely distributed in the Congo region than they are at present.

The most extensive figures available are those collated by Montandon (1928), from whose data a series of 37 averages for different tribes can be obtained. The number of males contributing to these averages was 1834. The frequency distribution of these 37 averages shows that only two are in the "short" range (1500–1550 mm.), but 15 of the tribal averages fall in the "low-to-medium" class interval of 1550–1600 mm., and there are eight groups in the class of medium statures (1600–1650 mm.). The general trend of statures is from "short" to "medium."

Cephalic Indices.—All definitely trend toward brachycephaly, the ranges of the averages for the first nine tribes quoted on the table being 76.8 to 80.3. When we turn to Struck's data, which are derived from 1,584 males, giving 119 averages for 117 tribes which are widely distributed, we have the same brachycephalic tendency emphasized. Of dolichocephalic groups (C.I. 70–75), there are only 15 examples; that is, 12.6 per cent of the groups are long-headed. In the mesaticephalic class intervals, there is a gradual increase in the number of averages falling in each interval, until we have a maximum of twenty-five groups in the interval C.I. 77–78, which is high mesaticephaly. Of the 119 groups 65 are in the range 77–80, quite close to brachycephaly, and 16 groups are definitely brachycephalic, with a C.I. of 80–83. This brachycephalic tendency in the Congo region definitely agrees with that of the Cameroons, but is distinctly different from the preponderating dolichocephaly and low mesaticephaly of our western series.

Nasal Index.—For the central area, the nasal index has a somewhat lower range than that in the western group. Since the averages for the western and central areas are based on widely different numbers,

we may not average the averages, and this is unnecessary, for a glance at the western averages shows that they run in the 90's to 100, while those for the Congo are usually in the 80's. Of Mondondon's forty-seven averages for N.I., twenty-six are in the 80-90 range, and nine of the groups are in the 90-95 range. The Azande (217) and the Momvon (241) are just within the mesorrhine category, and the Bakondjo (297) with an index of 85 are right on the border of the platyrrhine category. Most of the groups measured are definitely platyrrhine but seldom touch the index of 100.

SOUTH AND SOUTHWESTERN NEGROES

(Table 3)

Stature.—For the Bavenda 162, Stoyt (1931a) has given data which show that the modal value of stature is 1650-1700 mm. Above that class interval, there are thirty men in the 1700-1750 mm. group, and nineteen men in the 1750-1800 mm. group. The majority of men are definitely in the tall class, and the result obtained from Stoyt's measurements agrees well with the observations of Cipriani (1930-31), who gives 1696 mm. as the average height of thirty-nine Zulu, and 1712 mm. for twenty-three Batonga.

C. G. Seligman (1930), quoting from a manuscript of Turner, gives 1670 mm. as the average height of a large miscellaneous group of 4,098 natives of south and lower east Africa.

In Angola the height standards of the south African observations are maintained, and the tribes sampled are either definitely in the tall class or at the top of the medium class. Hambr's unpublished figures for 53 Ovimbundu give the average stature as 1687 mm., cephalic index 73.1, and nasal index 87.9. The Ovimbundu are more dolichocephalic and less platyrrhine than the other tribes of Angola, mentioned by Cardoso (1916).

Cephalic Index.—The figures indicate great uniformity in the C.I. for various tribes. Stoyt's Bavenda are equally divided between the dolichocephalic class of 70-75, and the mesaticephalic class of 75-80. The Zulu have an index of 75.4, while the Batonga are somewhat longer-headed (72.3). In Angola Cardoso's range of average indices for four tribes is 75.1-77.1. Struck (1922) gave samples of indices from Angola which show that out of twenty-one tribes sampled eight had an average index of 75-76. Ten of the tribes had average indices of 72-75, and three tribes were in the higher ranges of mesaticephaly with indices of 77-78. There is in this whole series from south Africa a definite preponderance of moderate dolichocephaly rising gradually

TABLE 3
NEGROES OF SOUTH AND SOUTHWESTERN AFRICA

REGIONS TRIBES LOCALITIES	STATURE	CEPHALIC INDEX	NASAL INDEX	SOURCES AND REMARKS
<i>South</i>				
Bavenda (168)	1676	75.2	92.3	Stayt (1931a, p. 20). Averages.
	1500-1550(3) 1550-1600(11) 1600-1650(48) 1650-1700(54) 1700-1750(30) 1750-1800(19) Above 1800(3)	65-70(8) 70-75(76) 75-80(77) 80-85(7)	75- 80(12) 80- 85(15) 85- 90(28) 90- 95(27) 95-100(49) 100-105(23) 105-110(10) Above 110(4)	Stayt (1931a, pp. 20, 368-371). Fre- quency distributions for 168 in- dividuals measured.
Zulu (39)	1696	75.4	92.0	{ Cipriani (1930-31, pp. 190-193; 250- 254).
Batonga (23)	1712	72.3	90.9	
Miscellaneous (4,098)	1670	....	....	{ Seligman (1930, p. 189), quoting MS. of Turner in Royal Anth. Inst., London.
<i>Southwest (Angola)</i>				
Luimbe (82)	1671	75.6	98.6	{ Struck (1922), Montandon (1928, pp. 245, 266, 278), Cardoso (1916).
Vachokwe (91)	1695	77.1	96.6	
Luená (101)	1685	77.0	97.4	
Valuchazi (46)	1704	75.1	98.5	
Ovimbundu (53)	1687	73.1	87.9	Hambly (unpublished)
	....	72-3(3)	....	{ Struck (1922). Frequency distribu- tions for averages of 21 tribes sampled.
	....	73-4(3)	....
	....	74-5(4)	....
	....	75-6(8)	....
	....	77-8(3)	....
Various tribes (21) 438 males..... (Angola)				

to the upper range of mesaticcephaly, but hardly any evidence of brachycephaly. Only 4 per cent of Stayt's sample of 168 men were in the brachycephalic class 80-85.

Nasal Index.—Stayt's 168 Bavenda give the modal value of 95-100, which is in the higher ranges of the platyrrhine group, and 37 (22 per cent) were hyperplatyrrhine (100-110). Cipriani's averages of 92.0 and 90.9 are near to the modal value of Stayt's large sample. The indices given by other observers are very consistent; all are in the 90-100 group. The Zulu and the Batonga have somewhat narrower noses than the Bavenda. In Angola the average nasal indices are mainly consistent, being 98.6, 98.5, 97.4, 96.6 and 87.9 for five tribes. The Ovimbundu (N. I. 87.9) have the narrowest noses.

EASTERN NEGROES

(Table 4)

Stature.—The samples of tribal averages show that statures in east Africa are nearly all within the medium group, 1580-1680 mm. The Wanyamwezi (101) are very close to the tall class with an average stature of 1675 mm., which is close to that of Roscoe's (1911) estimate for 288 Baganda having a height of 1673 mm. The Landins are just within the tall group with an average of 1686 mm., but the sample (14) is too small to be reliable.

Montandon's data of fifty-seven averages give a modal value for averages of 1650-1700, with nearly as many of the averages in the 1600-1650 group. Only a few of the averages are definitely in the tall category of over 1700 mm.

Cephalic Index.—The cephalic indices are remarkably consistent. Glancing down a column of eighteen averages, we find they range from 72.6 to 77.6 as absolute extremes. The clustering of the averages is around 74-75 according to Struck's (1922) data for 68 tribes, in 57 groups, representing 916 males. Montandon's collection of data yields a frequency distribution having a modal value for averages of 75-76. Of the 57 group averages given by Montandon, 40, that is, 70 per cent of them, have a value between 74-76, dolichocephalic to slightly mesaticcephalic.

Nasal Index.—Noses undoubtedly are broader as we proceed to sample the east side of Africa from Uganda to Nyasaland. The Baganda and Akamba have noses close to the mesorrhine condition, with N.I. 85.4 and 86.5 respectively, but glancing down the column we find the N.I. value gradually rising as the figures for the lower east African tribes are quoted. In Tanganyika Territory and Portuguese East Africa, the indices range from 90-100, most of the

TABLE 4
NEGROES OF EASTERN AFRICA

REGIONS TRIBES LOCALITIES	STATURE	CEPHALIC INDEX	NASAL INDEX	SOURCES AND REMARKS
Baganda, several groups (194), (51), (47), (15), (62).....	73.3-74.6	Struck (1922). Range of averages.
Baganda (288)	1673	73.4	85.4	Roscoe (1911, p. 520)
Akamba (128)	1657	76.5	86.5	} Leys and Joyce (1913)
Akikuyu (384)	1640	76.0	87.1	
Embu (110)	1630	75.5	88.5	
Wadshagga (43)	74.5	Struck (1922)
Mozambique (34)	1686	73.7	89.4	Cipriani (1930-31, pp. 166-168)
Mancas of Quilimane near Tete (34)	1650	74.4	95.7	} Lima (1918)
Another sample of Mancas (16) ..	1674	73.0	98.0	
Macuas (12)	1628	74.9	95.4	
Quilimane, tribes uncertain (11)	1657	74.4	....
Landins (14)	1686	72.6	95.8	
Moçambique (N. Coast) (18)	1633	77.6	94.6	
Mjauas (13)	1644	74.7	94.7	
Macuas of Nyasa (25)	1641	74.3	94.1	
Macuas of Moçambique (114)	1657	74.5	101.1	
Wanyakyuma and kindred tribes (37)	1680	75.6	95.3	
Wanyamwezi (101)	1675	75.8	89.7	Leys and Joyce (1913)

TABLE 4—*Concluded*
NEGROES OF EASTERN AFRICA

REGIONS TRIBES LOCALITIES	STATURE	CEPHALIC INDEX	NASAL INDEX	SOURCES AND REMARKS
Wanyamwezi (131), (27), (14), (10), (18), five samples	74.5-76.6	} Struck (1922). Range of averages.
Konde (34)	76.1	} Fülleborne (1906)
Konde (46) .....	....	75.6	....
Makua (16)	74.0	} Struck (1922)
Wabena (25) .....	....	75.0	....
Wandali (19) .....	....	74.7	....
East Africa, Lake Victoria to Lake Nyasa	70-72(3)	} Struck (1922). 68 tribes, 916 males, 68 averages. Frequency distribu- tions of tribal averages.
	....	72-73(6)	....
	....	73-74(11)	....
	....	74-75(18)	....
	....	75-76(15)	....
	....	76-77(10)	....
	77-80(5)	
East Africa, Lake Victoria to Lake Nyasa	1550-1600(1)	71-72(2)	60-65(1)	} Montandon (1928, pp. 244-245, 265- 266, 277-278). Frequency dis- tributions for 57 tribal averages of stature, 57 tribal averages of C.I., and 44 tribal averages of N.I.
	1600-1650(23)	72-73(2)	65-70(1)	
	1650-1700(27)	73-74(8)	70-75(0)	
	1700-1750(6)	74-75(10)	75-80(8)	
	In these figures are	75-76(19)	80-85(9)	
	Roscoe's Baganda	76-77(11)	85-90(16)	
	(247), stature 1673	77-78(2)	90-95(4)	
	(av.)	78-79(3)	95-100(3)	
			100-105(1)	
			105-110(1)	

averages being 94-95. Montandon's data for forty-four groups give a modal value of 85-90 for the N.I. Only two of Montandon's east African Negro groups have an index over 100, but 20 per cent of Weninger's western sample of 100 were in the 100-110 class interval. The Negroes with wider noses are on the western side of the continent.

NILOTIC NEGROES

(Table 5)

Stature.—Out of sixteen tribal averages for the Dinka, Shilluk, Nuer, Bari, Turkana, Nuba, and Mandari, only one is below the 1700 mm. mark, namely, one of the Nuba groups having an average of 1698 mm. All Nilotic groups measured are definitely in the tall class, whereas in all other topographical samples the tall class was small. Two of our Nilotic samples touch the 1800 mm. mark—as an average.

Cephalic Index.—The twenty-four samples of average cephalic indices clearly illustrate the dolichocephalic tendency of Nilotic Negroes, since eighteen of the samples are below the figure 75, and the mode is 73-74. That these Negroes have longer heads than other groups is shown by Montandon's range of averages, which are all in the low category 69.3-73.4, lower than those of any other group.

Nasal Index.—There are four out of seventeen averages with a N.I. of above 100; and though the averages agree with those of our other Negro groups in lying chiefly between 90-100, there is among the Dinka, Shilluk, and Nuer a tendency to the hyperplatyrrhine condition. (Figs. 27 and 28 show front and side views of a Nilote of the Bari tribe.)

SKULL MEASUREMENTS

Measurements made on Negro crania are insufficient for a thorough comparison with data from the living. For both the living and the dead, the results are based on anthropometric samples which for the main part are too small to be reliable. Krum (1913, pp. 175-181) measured eighty-four male skulls of the Wachagga of Kili-manjaro in northeast Tanganyika Territory. The modal value (19 per cent of the skulls) is 1400-1450 cc. for the cranial capacity, but nearly as many (about 17 per cent) are in the 1450-1500 cc. group. About 28 per cent of the skulls have a C.I. in the 70-75 category; the modal value is 75-80 C.I. for about 55 per cent of the skulls, and the remainder are brachycephalic, with a C.I. of 80-85. The modal value of the N.I. is 55-60, and in this platyrrhine group 45 per cent of the instances fall. Widenmann's (1898) group of

TABLE 5
NILEOTIC NEGROES

REGIONS TRIBES LOCALITIES	STATURE	CEPHALIC INDEX	NASAL INDEX	SOURCES AND REMARKS
Dinka (60)	1801	71.0	93.0	Keith (1911), quoting Pirrie's MS.
Dinka (12) .....	....	69.0	.....	} Struck (1922)
Dinka (101) .....	....	73.3	.....
Dinka (18) .....	....	70.2	.....	} Seligman (1913)
Dinka and Shilluk	1778	72.0	.....
Dinka, Shilluk, Nuer	1800	73.5	105.0	Tucker and Myers (1910)
Dinka (17)	1727	72.7	99.0	} Chantre (1918)
Dinka (15)	1770	73.8	104.9	
Dinka (3)	1775	69.3	91.0	} Girard (1900)
Dinka (85)	1786	72.7	91.6	
Shilluk (52) .....	....	71.9	.....	} Seligman (1913), quoting Pirrie Struck (1922)
Shilluk (11)	1777	71.7	93.3	
Shilluk (18)	1720	73.4	104.9	} Chantre (1918)
Shilluk (21)	1776	71.3	93.3	
Nuer (41) .....	....	73.5	.....	} Seligman (1913), quoting Pirrie Struck (1922)
Nuer (40)	1796	73.5	100.1	
Bari (19)	1728	73.4	.....	} Seligman (1913)
Turkana (9)	1713	74.2	89.8	
Nuba (50) (three groups)	1730	76.4	92.3	} Leys and Joyce (1913)
	1722	78.8	95.6	
	1698	77.7	92.4	
Nuba (80) (all sources)	1723	76.6	97.1	} Seligman (1913, p. 611)
Mandari (21)	1758	75.1	84.0	
Shilluk, Dinka, Nuer	1720-1822	69.3-73.4	90-110	{ Montandon (1928, pp. 240, 261, 274) Ranges of averages given for a large number of small groups, from sources quoted by Montandon.



FIG. 27. Bari man, near Juba, Anglo-Egyptian Sudan (courtesy of Marvin Breckinridge, copyright).



FIG. 28. Bari man, near Juba, Anglo-Egyptian Sudan (courtesy of Marvin Breckinridge, copyright).

thirty male and female skulls is too small to give reliable results. A. Hrdlicka's catalogue (1928b, pp. 107-127) gives some measurements for skulls of south African Negroes, Bushmen, and Hottentots.

Benington's (1911-12) series of African skulls is too small to support an argument for racial differentiation. In his introduction to this article, Pearson also points out the possibility that skulls from one area may be heterogeneous. The minimum series ought to be 100 adult crania of one sex. The male series included 50 crania from the Batetela tribe of the Congo and 50 from the Gaboon, collected in the year 1864 by Du Chaillu. A series of eighteen male skulls was acquired in Gaboon by the same explorer in 1880. Particulars are given for the groups of Zulu, Angoni and other crania (pp. 294-295), but the numbers are all small. Some general conclusions respecting the phylogenetic relationship of the samples, as revealed by the short series of measurements, are given (p. 33). The Gaboon and Congo series, despite differences, are regarded as "forming a fairly representative group which differs appreciably from the Kaffir-Zulu group." Formulae for calculating the capacity of Negro skulls from linear dimensions are given by Tildesley (1927), Isserlis (1914), T. W. Todd (1923), and Pearson (1904). Von Bonin (1934) has compared the results given by these formulae.

Kitson's (1931) grouping, based on the coefficients of racial likeness, leads to the conclusions expressed on pages 298 to 300 of that article:

"(a) Congo, Cameroons, Gaboon, Negroes from Egypt, Galla and Somali. The first three of these are from West Africa, which is generally supposed to be the home of the true negro; the Egyptian series probably came from the Sudan; and the Galla and Somali are usually thought to be essentially 'Hamitic' in physical type. The first three, and possibly the fourth, represent Bantu-speaking peoples, but the Galla and Somali speak an Hamitic language.

"(b) Kaffirs and Angoni. The physical similarity of these two southern Bantu-speaking peoples is not surprising.

"(c) Tanganyika, Teita, and Hottentots. The close resemblance between the groups from Tanganyika Territory and Kenya Colony is to be expected from cultural evidence and from their geographical position, but it is surprising to find that they are linked up with the non-Bantu Hottentots, and that the last bear their closest resemblance to the Teita who are geographically further removed from them than are the peoples of Tanganyika Territory.



FIG. 29. Bedouin Arab of Tunis, North Africa.

"It must be admitted that there are several unexpected features of this classification which has been reached by purely statistical means. There is no close correspondence between the affinities of the types and their geographical positions. The Congo and Cameroons series may be supposed to represent the most typical West African races, but they are connected with those of East and South Africa by the Gaboon series which came from a district 800 miles further west than that from which the Congo crania were obtained. Kenya Colony lies to the north of Tanganyika Territory, but the Teita have closer relationships to the southern Angoni and Hottentots, while the Tanganyika tribes resemble more closely the Negroes from Egypt and the Galla and Somali. The suggested relationships of the Hottentots would certainly not have been expected. It must be noted that the Bushman and Hottentot series are less well authenticated than the others, but they are clearly differentiated from each other and still more clearly from the Kaffirs.

"The present classification is only claimed to be a preliminary one, and it should not be rejected merely because it does not accord closely with the generally accepted theories of the relationships of the African races. These theories have been based almost entirely on very inadequate data obtained from the living populations. The material used in the present paper is also inadequate, but the use of purely quantitative methods applied to cranial measurements, which have many advantages over those of the living, appears to offer quite the most hopeful approach for future research in this direction. The most pressing need is for more and, if possible, longer series of crania of Negroes, Bushmen, and Hottentots."

SEMITES, HAMITES, HALF-HAMITES

When dealing with the measurements of Negroes, we were able to avoid use of the linguistic terms "Bantu" and "Sudanic" by substituting topographical terms. There appears to be no alternative to the use of the words "Semitic" and "Hamitic," which have definite linguistic and cultural connotations. We have no specific terms to express the aggregate of somatic traits associated with either the word "Semite" or "Hamite," though photographs and anthropometric data make the distinguishing physical features perfectly clear.

SEMITES

(Table 6)

A glance at Figs. 29 and 30, giving front and side views of an Arab of Tunisia, make clear the main features. Hooton (1931, p. 509)



FIG. 30. Bedouin Arab of Tunis, North Africa.

describes Arabs as being mainly of "Mediterranean race with slight admixture of Armenoid and possibly Nordic. The nose is aquiline and very leptorrhine, with thin nasal tip, high bridge, and compressed alae. The head form is very dolichocephalic with protruding occiput." This statement needs modifying, since there are two main divisions of Arabs, a dolichocephalic and a decidedly brachycephalic division. According to Hooton, the stature is medium, averaging 1650-1680 mm., and the build is slender. The color of the hair is black or dark brown, and the color of the eye the same. The skin color is olive brown. The face is elliptical, long, and narrow. The hair is wavy or curly, with medium texture.

Some of the data in this general description may be verified by consulting C. G. Seligman (1917) and referring to Table 6.

Seligman (1917, p. 214) states that anthropometric records of Arabs in Africa and elsewhere are few and often incomplete. This, however, was written twenty years ago and to some extent the gaps have been filled, especially for Arabia and Iraq, though the African records are still scanty. Seligman's examination of fragmentary data brings him to the conclusion that southern Arabia has a predominantly brachycephalic population, while in the north there is a dolichocephalic population.

Seligman then turns to a discussion of the Arabs in Africa and notes that many so-called Arabs are Arabized Berbers. Fig. 31 gives an illustration of a man who, in my opinion, illustrates the term "Arabized Berber." Arabic is his natural tongue and he is a Mohammedan, but in physical type he corresponds well with the illustrations of Berbers shown by Coon (1931), Bertholon and Chantre (1912), and Bourrilly (1932). Seligman refers to the well-known westerly incursions of Arabs who have been absorbed into a Berber population from which they probably differed little in stature and head form. In the hinterland of Tripolitania and Tunisia, however, there are many pastoral, semi-nomadic people, who are probably of predominately Arab blood. C. G. Seligman quotes Chantre (1904, p. 196) to show that some Egyptian Arabs (Bedouins) have average cephalic indices ranging from 72.8 to 75.4, which agrees closely with Seligman's measurements of the Arab Kababish of Kordofan. The occurrence of brachycephalic skulls in ancient graveyards of Egypt and Tripoli, among predominantly long-headed populations, may be explained by regarding these as intrusions from southern Arabia.



FIG. 31. Well-educated, Arabic-speaking type, Tunisia. Berber features.

Turning to Table 6, we have sufficient data to indicate what physical features might be expected in people of Arabized blood in Africa. For types of Tripolitania, see G. Müller (1936).

A report by H. Field (1935) shows that Arabs of Kish (396 measured) have an average stature of 1677 mm., a C.I. of 75.3, and N.I. of 61.1. They are therefore of medium stature, dolichocephalic, and leptorrhine (Fig. 71). Evidently the Arabs of south Arabia are appreciably shorter than those of Kish. They are brachycephalic according to all observers, and the groups showing the highest brachycephaly (mode 86-87) are those measured by B. Thomas (1932).

The Arabs measured by Coon (1931) in northwest Africa show close agreement with Field's Kish series. The Arabs of Kish, compared with those of northwest Africa, have 6 mm. more in stature, are one point higher in cephalic index, and have somewhat narrower noses. A small sample (24) of Kababish have the greatest stature of our Arab samples; they are distinctly dolichocephalic, and, as might be expected, owing to long contact with Negro slaves, the N.I. is higher than that of other Arab groups.

Shanklin's (1934, 1935) trans-Jordan Arabs are mesaticephalic with a modal value of C.I. 76-77 for 791 males. The details of Shanklin's distribution indicate the mingling of broad-headed and long-headed stocks. Classified according to villages, the average C.I.'s range from 74.7-78.8, and for the tribes the range of averages is 74.1-78.2.

In Battara's (1934) review of the data of Aldobrandino Mochi, we have a classification of the figures relating to seventy-nine males of Eritrea and northern Abyssinia, who speak a Semitic language, Tigré. If from the tables a frequency distribution is prepared, there is evidence that the stature is either tall or bordering on the tall class. There is a definite modal value between 1670-1730 mm., in which division 43 per cent of the individuals are classed. With regard to head form, 40.5 per cent are dolichocephalic, and 50.6 per cent are mesaticephalic; there is only one individual with an index above 80 (brachycephalic), and only five individuals have an index below 70 (sub-dolichocephalic). The N.I. very definitely shows the leptorrhine and mesorrhine condition prevailing. Of the total sample, 43 per cent are leptorrhine, 50 per cent mesorrhine, and only 7 per cent platyrrhine.

In the Semitic groups, we clearly have a people of medium stature, and sometimes in the lower ranges of medium values. There are two



FIG. 32. Bedouin Arab woman, Tunisia, North Africa.



FIG. 33. Bedouin Arab woman, Tunisia, North Africa.



FIG. 34. Pure Saharan Berber (Tuareg) type (after M. G. Grandidier).

distinct forms of head, namely, those that are definitely dolichocephalic and those that are brachycephalic. In all the groups tested, the nose is leptorrhine, but among the Kababish very close to the mesorrhine condition. We can find groups of Negroes with statures and cephalic indices similar to those of the Semites, but the narrowness of the nose among the Semites is a dependable distinction.

HAMITES (NORTHERN)

(Table 6)

If we agree to accept the external origin of the Hamites, despite the views of Sergi (1901) and G. A. Barton (1934), who accord them an African origin, we have a picture of Hamitic incursions from southwest Asia. These incursions split into two main branches, a northern and an eastern. The illustrations of a Tuareg (Fig. 34) and of Egyptians (Fig. 35) show the features of the northern Hamitic group. Figure 37, portraying a Somali and a Hadendoa, gives an indication of the eastern Hamitic type. This type is also represented by two Amharic-speaking Abyssinians (Fig. 36). The measurements collated in Table 6 facilitate comparison of anthropometric data.

Considering first the stature of the northern Hamites, the Tuareg (1725 mm.) are within the tall class, but all other groups, namely, the Berbers, are of upper medium height. The Tuareg are clearly dolichocephalic, with an index of 71.8, while the other groups are mesaticephalic, with average indices ranging from 75.0–77.3. In stature and in C.I., there is no definite distinction between these groups of northern Hamites and Negroes, except that the long-headed Tuareg are more dolichocephalic than any of the Negro groups, with the exception of some of the Nilotic Negro tribes.

When, however, the nasal indices of the northern Hamites are considered, a condition fundamentally different from that of any Negro tribe is observed. All the northern Hamitic groups are decidedly leptorrhine and the averages of the N.I. for the several groups are remarkably close, with a range of only 63.5–66.5.

HAMITES (EASTERN)

(Table 6)

In turning to the consideration of eastern Hamites, there is the difficulty of classification. Seligman (1930, p. 102) points out that the Ababda, who once spoke Bedawi, which is the Hamitic language of the Bisharin and the Hadendoa, have lost their old tongue and now speak Egyptian, while the Beni Amer speak a Semitic language called Tigré. There is in the region between the Red Sea and the



a



b

FIG. 35. Egyptians of Luxor. a. Hamitic type. b. Showing Negroid and Hamitic mixtures (after photographs by H. Field).



FIG. 36. Amharic-speaking Abyssinians of Addis Ababa (after photographs by A. M. Bailey).



a



b

FIG. 37. Eastern Hamitic types. a. Hadendoa, sword on back (courtesy of Sudan Government Railways) b. Somali (courtesy of Th. T. Mollison, Anthropologisches Institut der Universität München).

TABLE 6
SEMITES, HAMITES, HALF-HAMITES

REGIONS TRIBES LOCALITIES	STATURE	CEPHALIC INDEX	NASAL INDEX	SOURCES AND REMARKS
<i>Semites</i>				
Arabs—Kish (396).....	1677	75.3	61.1	Field (1935, p. 444)
Arabs—Yemen (40).....	1613	80.1	65.3	Cipriani (1930-31)
Arabs—Yemen (20).....	1648	81.1	....	Leys and Joyce (1913)
Arabs—Transjordan (791).....	....	76-77 (mode)	....	{ Shanklin (1934, 1945), considerable variation among groups
Arabs—South Arabia (40).....	1650 (mode)	86-87 (mode)	....	B. Thomas (1932)
Arabs—Northwest Africa (93).....	1671	74.6	66.3	Coon (1931)
Kababish (24).....	1709	74.3	69.7	Seligman (1913, p. 630)
<i>Hamites</i> (Northern)				
Tuareg (143).....	1725	71.8	66.3	Zeltner, de (1914)
Rif (total, 529).....	1686	75.0	63.5	{ Coon (1931)
Senhaja (total, 197).....	1671	75.1	64.9	
Ghomara (73).....	1652	77.3	63.8	
Berbers (184).....	1659	76.4	66.5	{ Talbot (1916, p. 174), quoting Topi- nard and Frengreuber
<i>Hamites</i> (Eastern)				
Ababda (162).....	1636	73.7	75.1	Murray (1927, p. 40)
Bisharin (78).....	1650	79.0	76.1	Chantre (1904, p. 255)

TABLE 6—*Concluded*
SEMITES, HAMITES, HALF-HAMITES

REGIONS TRIBES LOCALITIES	STATURE	CEPHALIC INDEX	NASAL INDEX	SOURCES AND REMARKS
Hadendoa (54).....	1676	76.4	71.6	} Seligman (1913, p. 601)
Beni Amer (51).....	1643	74.7	70.5	
Somali (32).....	1712	75.7	72.0	Puccioni (1911)
Somali (530).....	....	74.2-75.7	.....	{ Struck (1922) range of averages for 7 groups
Somali (27).....	1735	74.6	69.9	Leys and Joyce (1913) Radlauer (1914)
Somali (22).....	1707	76.0	65.7	
Danakil (66).....	....	74.1	.....	} Struck (1922)
Galla (Shoa, 50).....	....	76.2	.....
Galla (Wollo, 50).....	....	76.4	.....
Galla (80).....	1740	77.5	.....	Lester (1928), quoting De Castro
<i>Half-Hamites</i>				
Masai (91).....	1700	73.2	76.2	Leys and Joyce (1913)



FIG. 38. Abyssinian (Amharic-speaking, left), Black Falasha (right), and Abyssinian ibex (from photograph by

Nile an overlay of Semitic speech and customs upon the Hamitic foundation, so perhaps there is justification for including in the eastern Hamitic group those whose original Hamitic traits have been submerged.

With the exception of the Somali groups, which are all definitely in the tall class, the eastern Hamites are of medium height, showing fairly close agreement with the Berber groups of northern Hamites. We have, according to these data, only two tall groups of Hamites, the Tuareg (northern) and the Somali (eastern). Among the eastern Hamites, head form has a definitely rounder tendency than among the northern Hamites, and this may be due to some phylogenetic relation between eastern Hamites and an ancient brachycephalic Armenoid people. The eastern Hamites are decidedly more platyrrhine than the northern Hamites, for, glancing down the column of figures for the N.I. of the northern Hamites, all are in the 60's, whereas the nasal indices of the eastern Hamitic groups are, with the exception of two Somali groups, all in the 70's. The eastern Hamitic groups are nearly all mesorrhine; the northern Hamitic groups are all leptorrhine.

The measurements made by Sergi (1912) on sixty-nine male skulls of people he describes as modern Tigré give averages of 1501 cc. capacity, which is higher than that of most Negro tribes, a N.I. of 50.3, and a cranial index of 74.2. Adding two points to the cranial index, we have a C.I. of 76.2, in very close agreement with the indices for all the eastern Hamites quoted on Table 6.

To bring the average N.I. of the skull series into form with the N.I. of the living, we may use a formula of Buxton and Thomson, discussed by Davies (1932, pp. 349-351). The formula $N.I. (living) = N.I. (crania) \times 2.327 - 38.08$, when applied to the N.I. 50.3, gives N.I. 78.96, which is higher than that for the living groups considered in Table 6.

On the whole, there is a close resemblance between the African Semites and the two geographical groups of Hamites. Both the northern and eastern Hamites have tall groups, but generally speaking, the Hamites and Semites are of medium stature. With the exception of the low dolichocephaly of the Tuareg, all the Semitic and Hamitic groups have a short range of C.I. from the higher ranges of dolichocephaly to moderate mesaticephaly. There is a difference to be observed, however, between Semites and northern Hamites on the one hand, and eastern Hamites on the other. The eastern Hamitic groups are not so leptorrhine as the northern

Hamites and Semites. In fact, most of our samples of eastern Hamites have average nasal indices within the mesorrhine value.

HALF-HAMITES

A sample of ninety-one Masai (Fig. 39) gives a tall stature of 1700 mm., a rather low C.I. of 73.2, and a definite mesorrhine condition which is arrestingly different from that of Negroes. The Masai have a nasal index (76.2) which shows their intermediate position between Hamites and Negroes. The N.I. is, in fact, not much higher than that of the Ababda and the Bisharin, but the index is noticeably higher than that of the northern Hamites and the Semites.

PYGMIES

Tables 7, 8

A thorough historical survey of the Pygmy question would begin with the writings of Aristotle and Herodotus; we are, however, concerned here with anthropometry, for which there is one incomparable source, that of Schebesta and Lebzelter (1933). The cultural pattern of Pygmy life is dealt with in section II, where references other than those bearing on physical anthropology will be found.

Our modern study of Pygmies may begin with the writings of Du Chaillu (1867, p. 317), who explored the Gaboon region in the period 1865-70. He states that the Pygmies of that area were of a dirty yellow color, their foreheads were low and narrow, their legs were short in proportion to their trunks, and their eyes had a look of unutterable wildness. The average height of six women he measured was 1400 mm., which is a little taller than that given by Schebesta for Efé females.

In the northeast Congo, the earliest observations that aroused anthropological interest were made by Schweinfurth (1874, vol. 2, pp. 140-143), Stanley (1891, vol. 1, p. 208), and W. Junker (1892, vol. 3, pp. 81-86). All these observers agree in their description of physical traits, and all remark on the simplicity of the hunting culture, skill in tracking game, vivacity, adept dancing, and emotional instability. The few casual measurements are of no present importance. Stanley observes that, in distinction from the Ituri Bambuti Pygmies, the Batwa have long heads, long narrow faces, and an expression that is sour, anxious, and querulous.

These field observations of the period 1867-87 aroused great interest in anthropological circles, and the works of Hamy (1879), Topinard (1885), and Quatrefages (1887) resulted. In 1888 Flower measured two skeletons of the Aka Pygmies of the northeast Congo,



FIG. 39. Masai warriors, Kenya, Half-Hamites.

and although his technique would no doubt meet with present-day criticism, his measurements are extremely valuable. The rarity of skeletal material from the African Pygmies is mentioned by Schebesta, who states that he was unable to obtain such material. H. H. Johnston (1902, vol. 2, pp. 494, 565) gives some photographs of Pygmies, together with a few anthropometric tables which show the averages of six males to be: stature, 1452 mm.; C.I., 78.7; and N.I., 109. Von Luschan (1906) describes the skin color of six Pygmies as a dull brown with a yellowish tinge. The hands and feet are delicately formed, the legs poorly developed, the eyes large and lustrous. Table 7 records the measurements supplied by von Luschan on four males and two females. The work of Czekanowski (1911, 1922) is well known for the excellence of the photographic studies and the measurements recorded. Cipriani (1933) has supplied measurements of a few Pygmies and has given photographs showing detailed structure of their hands, feet, and the distribution of facial and corporal hair. Gusinde (1936) has illustrated a short article with several photographs.

The Pygmy problem in its broadest sense refers, not merely to resemblances of African Pygmies *inter se*, but to a thesis that regards the African Pygmies, and Bushmen as well, as belonging to a Pygmy race that spread through the Andaman Islands into the Malay Peninsula, the Philippine Islands, and New Guinea.

The chief exponent of this theory is P. W. Schmidt (1910). Another contributor is Von Eickstedt (1927), who gives a useful condensation of Schmidt's views. Haddon's encyclopedia summary (HERE, vol. 9, 1919, pp. 271-274) is also a succinct formulation of the theory of Pygmy dispersal. Skeletal material is rare, but Krämer (1906) has compared two very small Pygmy skulls from New Guinea with measurements on Bushman skulls.

Reviewing Pater Schmidt's "Die Stellung der Pygmäenvölker in der Entwicklungsgeschichte des Menschen" we find that the argument is almost entirely based on cultural evidence pertaining to simple hunting communities of people of small stature. He compares the head form, hair, and a few obvious bodily traits, but the bulk of the work is divided between the study of material culture and the few social and spiritual facts that are known. The account deals with ornaments, clothing, food supply, shelters, itinerant life, village planning, and making fire. Bows and arrows are also studied. The review of spiritual culture includes music, art, such points of social structure as marriage, the family, and chieftainship, also



FIG. 40. Pygmy chief, northeast Aruwimi River. Stature 4 feet 2 inches. Wears strip of okapi skin round waist (from photograph by Mrs. Delia Akeley, copyright).

religion, mythology, and magic. A summary (pp. 280-284) states a hypothesis for origin of Pygmies in Asia whence they spread southwest and southeast. The African Pygmies represent old branches of the stem, while the Bushmen have traveled farthest and have probably departed widely from the original stock in culture, speech, and physique. A work by Trilles (1932) gives little help with anthropometry, but is a valuable survey of the social life of Congo Pygmies other than the Bambuti.

The theory of Pygmy dispersal depends on a detailed study of physique and language, as well as consideration of cultural similarities. Now cultural similarities are bound to be numerous in hunting communities of rudimentary pattern, living in forest environment within the tropics. Even today, with the advantage of recent contributions to physical anthropology, we have far too little data to make a detailed comparison of widely separated Pygmy groups throughout the area of alleged dispersal. The linguistic situation also is obscure, and for African Pygmies the existence of a Pygmy language, preceding the use of present-day Bantu and Sudanic speech by Pygmy groups, has yet to be established. Therefore, though Schmidt's thesis of twenty-seven years ago may well be true, the comparative material for demonstration is still meager.

From these historical considerations we turn to the data of Schebesta and Lebzelter (1933) to extract a few quotations relating only to the physical attributes of central African Pygmies. A map (p. 7) makes the distribution of Pygmy and pygmaeform groups quite clear. Schebesta prefers the word "pygmaeform" to the term pygmoid, and instead of using the noun Pygmy as an adjective also, he employs the adjectival form pygmean. His map shows the principal Pygmy groups. In the northeast are the Ituri, Aka, Efé, and Basua. There are Batwa groups in the east and southeast. The Bacwa Pygmies are on the mid-course of the Chuapa and Lomela tributaries of the Congo. Another group of Bacwa, sometimes called the Batembo, occupy an extensive region south of Coquilhatville. The Babinga are widely scattered between the Ubangi and Sangha rivers. Bekwi and Akoa Pygmies are located near the Ogowé River.

Schebesta states that probably 25,000 Pygmies live in the Ituri region, and they are by no means on the decrease, despite high mortality of infants and young adults as a result of the strenuous forest life. The family is monogamous, and there are two living children to each married woman.



a



b

FIG. 41. Bambuti Pygmies, Ituri Forest. a. Male. b. Mother and child (from photograph by E. Heller).

As an outward principle of classification Schebesta groups the northeastern Pygmies according to the languages they have adopted from surrounding Negroes. The Aka are a Sudanic linguistic group. The Basua, under which name there are many subdivisions living on the left bank of the Ituri, use an archaic Bantu speech. The Efé, in the eastern forest region of the Ituri, are another linguistic division comprising the Mamvu, Mombutu, Balese, and Bambuba.

The build of the Ituri Pygmies is heavy and clumsy, but there is no impression of stunted growth or malnutrition. The head is disproportionately large, the neck short, and the trunk long in proportion to the legs. The hands and feet are slender. In many men there is a powerful development of the thorax, and the breadth of the shoulders still further increases the appearance of disproportion. The gait is waddling and clumsy, and the toes are often turned inward. The skin color of a pure-bred Mombuti is grayish yellow, but mixture of Negro blood often gives a darker tint. The Bambuti are hirsute on face and body. Schebesta (p. 31) gives outline drawings of facial types, namely, the broad and the narrow. Despite the peculiarities of build one must distinctly understand that Pygmies are a specific human type, and not degenerative Negroes. The body odor is different from that of white people and Negroes, and must be regarded as a definite physical character of the African Pygmies. The Aka, who have felt the influence of the Mangbetu, deform the skulls of their infants by swathing the occiput.

The Batwa of Kivu and Ruanda, when nomadic, resemble the true Ituri Pygmies, but the settled Batwa are taller and darker than the typical Pygmies. This modification will be discussed in more detail later when dealing with the effects of miscegenation. The Bacwa (singular Bocwa), of whom about 50,000 exist, are associated with the Nkundu Negroes.

Lebzelter (p. 81) distinguishes six types of Pygmies and gives a list of the combined features distinguishing each. The purest breed is the Basua of the Babira, 82 per cent of whom are representative Pygmy types. The types are true Pygmy I, II, III; and Europoid, with narrower faces, narrower noses, and thinner lips. Other types are Negro I and II.

Taking the Efé as a representative Pygmy group, we find that the stature of males is 1430 mm., the C.I. 79.4, and the N.I. 105.7. The list of measurements (Table 7) shows considerable variation in height, and some differences of C.I. and N.I. among the Pygmy groups, but all are of short stature, high cephalic index (about 80), and either



FIG. 42. Bambuti Pygmies, Ituri Forest. *a*. Female. *b*. Male (from photograph by E. Heller).

very platyrrhine or definitely hyperplatyrrhine. For the Pygmy groups Schebesta and Lebzelter (1933, p. 22) have prepared a frequency distribution curve, showing that all males have a modal value of stature in the class interval 1440 mm.; females 1360 mm. The curve for pygmean groups shows two modal values for males, one in the interval 1520 mm., and the other at 1640 mm.; females 1480 mm. The C.I. for all true Pygmies is 80 for males and 78 for females. Again in the pygmean groups the females are a little more dolichocephalic than the males, the respective indices being 77 and 78.

In summing up, Lebzelter states, "We may say that the Pygmies of central Africa to whom alone, according to P. Schebesta, the historical name of Pygmies should be applied, are composed in the main of one race, only the Bambuti race, with the addition of a small percentage of Negroid and European elements."

A comparative study of physical types of Pygmies may be made by consulting Figs. 40-42, 64, 65.

KHOISAN PEOPLE (BUSHMEN AND HOTTENTOTS)

(Table 7)

Alleged physical resemblance between true Pygmies and Bushmen tribes of the Kalahari Desert, south Africa, tends to disappear when a comparison of somatic traits is made.

The average height of Bushmen differs in various localities, and the fact that the average height increases in the northern and eastern regions may be attributed to mixture with taller tribes of the southern Bantu Negroes. Bushmen, whether pure or mixed, are on the average taller than true Pygmies. The head form of Pygmies tends to brachycephaly, with indices 77-80, whereas Bushmen, with cranial indices of 75-76, approach a dolichocephalic condition. The nasal index for Bushmen is high, but so far as the inadequate data show the noses of Bushmen are not so broad as those of Pygmies. Both Pygmies and Bushmen have a yellowish tinge of the skin. The cheek bones of Bushmen are prominent, so also is the jaw. The eyes are set far apart, the lips project, and often the ear-lobes are joined to the cheeks. The arms and lower limbs are short in proportion to the trunk, whereas the Negro has long arms. The hair of Bushmen (Fritsch, 1916) differs from that of other Africans on account of the formation in small, closely coiled spirals that leave the scalp visible. The growth of facial and body hair is sparse, as it is with Negroes, but not with Pygmies. A comparison of Figs. 43-47, 62, and 63 shows the build and physiognomy of Bushmen.



FIG. 43. Bushman, Cassinga, Angola.

TABLE 7
PYGMIES, BUSHMEN, HOTTENTOTS

REGIONS TRIBES LOCALITIES	STATURE	CEPHALIC INDEX	NASAL INDEX	SOURCES AND REMARKS
<i>Pygmies</i> (Central Africa)				
Efé (159).....	1430	79.4	105.7	} Schebesta and Lebzelter (1933)
Basua (50).....	1447	78.2	112.1	
Bakango (102).....	1439	80.8	96.5	
Aka (13).....	1429	79.2	107.6	
Bacwa (45).....	1581	77.7	110.6	
Batwa-Ruanda (17).....	1829	78.4	100.7	
Basua village (30).....	1601	77.8	92.6	
Balese (7).....	1609	78.6	111.5	
Efé-Bastard (10).....	1500	79.1	101.5	
Bambuti, Northeast Belgian Congo (6).....	1452	78.7	109.7	H. H. Johnston (1902)
Aka, Northeast Belgian Congo (4)...	1365	79.6	114.3	} Luschian, Von (1906)
	1335	77.6	109.5	
	1425	76.8	131.9	
	1250	....	....
Aka (2 skeletons).....	74.4	63.4	} Flower (1888), cranial capacity of
	♀ 1218	77.9	55.3	
Sanga Pygmies (31 ♂).....	1540	79.4	94.0	} Kühn (1914)
Sanga Pygmies (37 ♀).....	1469	78.0	95.6	

TABLE 7—*Concluded*
PYGMIES, BUSHMEN, HOTTENTOTS

REGIONS TRIBES LOCALITIES	STATURE	CEPHALIC INDEX	NASAL INDEX	SOURCES AND REMARKS
<i>Bushmen</i> (6)	1444	....	.....	Fritsch (1872, pp. 396-410)
Auen (number not stated)	1515	....	.....	} Schapera (1930, p. 52), quoting Kaufmann.
Naron (50)	1570	....	.....
Naron (16)	1570	....	.....	Schapera's summary of data.
Kung (74)	1564	....	.....	} Schapera (<i>ibid</i>), quoting Seiner.
Heikum (15)	1525	....	.....
Heikum (14)	1553	....	.....	Schapera (<i>ibid</i>), quoting Werner.
!O Kung of Angola (22)	1593	....	.....	Schapera, quoting Bleek.
Hiechware	1680	....	.....	} Schapera's (1930, p. 53) own measurements.
Southern Kalahari (14) .....	....	75.8	.....
<i>Hottentots</i>				
Naman (73)	{ 1624	72.9	.....	} Schapera (<i>ibid</i>), quoting Schultze. Averages and ranges given.
	{ 1505-1765	67.1-78.5	.....

TABLE 8

MEASUREMENTS OF BUSHMEN (LIVING) OF THE MIDDLE KALAHARI DESERT

(Taken by Dr. Rudolf Pösch, Vienna, and published by kind permission)

HEIGHT OF BODY

<i>Males</i>			
Age	Number	Range	Average
6-8	6	1062-1248	1157
10-12	4	1199-1418	1300
14-18	20	1444-1630	1535
20-29	36	1440-1715	1564
30-39	28	1413-1685	1557
40-49	23	1425-1650	1561
50-80	23	1398-1628	1536
<i>Adult Males</i>			
Tribe			
Auñin	34	1442-1703	1577
Heikum	8	1495-1685	1556
Makaukau	14	1519-1648	1584
Gabe	4	1398-1606	1491
Middle Kalahari	6	1457-1647	1554
Southern Kalahari	8	1418-1615	1477
Aikuë	47	1423-1715	1552
<i>Females</i>			
Age	Number	Range	Average
10-12	4	1055-1258	1176
14-18	9	1303-1526	1423
20-29	20	1354-1603	1481
30-39	19	1351-1555	1473
40-80	13	1360-1580	1476
<i>Adult Females</i>			
Tribe			
Auñin	11	1354-1595	1492
Heikum	5	1360-1516	1443
Makaukau	9	1390-1534	1457
Gabe	3	1445-1463	1455
Middle Kalahari	3	1440-1475	1457
Southern Kalahari	2	1447-1480	1464
Aikuë	23	1353-1603	1486
Hottentots	4	1465-1574	1523

Comparisons of the somatic traits of Bushmen and Pygmies have been made by W. H. Flower (1888) who says, "The peculiar oblong form of the skull, its vertical forehead, straight sides, the wide flat space between the orbits, the extremely small and flat nasal bones, and the absence of prognathism at once distinguish the skull of the Bushman from that of the Akka."

The physiognomy of Hottentots (Fig. 48) bears a resemblance to that of southern Bushmen, but the former are taller and there are differences in head form. The statures of Bushmen fall in the short category, while the stature of Hottentots (1624 mm.) lies in the

TABLE 8—*Continued*

MEASUREMENTS OF BUSHMEN (LIVING) OF THE MIDDLE KALAHARI DESERT

BREADTH OF HEAD

Males

Age	Number	Range	Average
6-8	5	130-139	134
10-12	4	128-134	132
14-18	17	135-146	140
20-29	27	134-149	142
30-39	20	134-149	144
40-49	15	133-152	142
50-80	14	134-153	143

Females

10-12	4	129-140	134
14-18	6	127-139	134
20-29	15	131-148	140
30-39	13	132-145	139
40-80	10	133-142	139

Adult Males

Tribe			
Auñin	27	133-153	143
Makaukau	10	137-149	143
Aikuë	46	134-152	141

Adult Females

Auñin	10	136-143	139
Makaukau	7	134-142	139
Aikuë	22	131-148	139

LENGTH OF HEAD

Males

Age	Number	Range	Average
6-8	5	174-191	182
10-12	4	172-184	177
14-18	17	175-200	182
20-29	27	176-196	185
30-39	20	174-196	191
40-49	15	176-195	187
50-80	14	179-192	187

medium group. The heads of Hottentots are longer and less flattened than those of Bushmen. For seventy-three Hottentots the C.I. proved to be 72.9, which is in the lower range of dolichocephaly (Schapera, 1930, p. 61, quoting Schultze, 1928). The jaws of Hottentots are more prognathic than those of the Bushmen.

In both Hottentot and Bushman tribes the women show a condition known as steatopygia, that is, a disproportionate fattening of the buttocks, which is further emphasized by an inward curvature of the lower part of the spine. This condition is illustrated by Hooton (1918) who has reproduced some sketches of early travelers.

TABLE 8—*Concluded*

MEASUREMENTS OF BUSHMEN (LIVING) OF THE MIDDLE KALAHARI DESERT

LENGTH OF HEAD			
<i>Females</i>			
10-12	4	170-175	171
14-18	6	173-180	176
20-29	15	171-194	182
30-39	13	173-190	183
40-80	10	176-185	180
<i>Adult Males</i>			
Tribe			
Auñin	27	174-196	188
Makaukau	10	179-196	187
Aikuë	46	176-200	184
<i>Adult Females</i>			
Auñin	10	171-188	181
Makaukau	7	179-184	181
Aikuë	22	173-194	187
LENGTH-BREADTH INDEX			
<i>Males</i>			
Age	Number	Range	Average
6-8	5	69.63-77.65	74.04
10-12	4	72.82-75.72	74.31
14-18	17	72.02-79.55	75.52
20-29	27	69.79-80.34	76.40
30-39	20	71.66-81.76	77.40
40-49	15	74.19-80.42	76.30
50-80	14	70.16-81.82	76.15
<i>Adult Males</i>			
Tribe			
Auñin	27	70.16-81.82	76.36
Makaukau	10	72.45-80.00	76.59
Aikuë	46	71.43-83.52	74.40
<i>Females</i>			
Age	Number	Range	Average
10-12	4	74.86-82.35	77.98
14-18	6	71.75-81.76	76.38
20-29	15	73.60-82.45	76.60
30-39	13	72.53-80.85	76.93
40-49	10	74.05-78.77	76.30
<i>Adult Females</i>			
Tribe			
Auñin	10	73.51-82.45	76.73
Makaukau	7	74.44-79.89	76.70
Aikuë	22	72.53-80.35	76.26

The women of both Hottentot and Bushman tribes have their labia minora elongated. This is a congenital formation which is increased by manipulation.

A summary of the meager anthropometric data for Bushmen and Hottentots is given by Schapera (1930, pp. 51-64). The figures

show every possible defect—paucity of data, failure to state the number of persons measured, mingling of measurements for both sexes, and failure to make statements respecting purity of blood in the small examples chosen; but, judging from the low variability of physical traits among different groups of Hottentots, the Hottentot type was established at a remote period. When measurements are made among a population which represents a recent mixture, the coefficients of variability are high as a rule. But, despite mixture, there are sometimes among the original population certain entrenched physical traits which tend to stability, regardless of the physical mixture and the influence it has on other less strongly entrenched somatic traits. Apparently the bodily characters of the Hottentots have had time to settle to a fairly uniform type.

Professor V. Lebzelter recorded an extensive series of measurements on groups of Bushmen and Hottentots, but at present the published data are insufficient for an adequate survey. The fact is astonishing that the early research of Fritsch (1872) is probably the best account we have of the physique of the Khoisan. Plate 49 (Fritsch) gives shades of skin color, and Plates 30–48 show crania and skeletal details. Tables 1–4 (Fritsch) record cranial measurements. The Atlas accompanying the text contains a large number of artistic woodcuts showing the physiognomy of Bushmen and Hottentots. For data given in Table 8, I am grateful to Dr. Hella Pöch who supplied the unpublished figures of measurements for Bushman males and females. Types of Bushmen are shown in *Bantu Studies* (vol. 10, No. 2, 1936).

Shrubsall (1897) gives tables of measurements on the skulls of eight Hottentots and eight Bushmen. The method of testing cranial capacity, and probably other points of technique employed forty years ago, would, no doubt, be open to criticism, but the figures are among the best we have.

Pittard has made a brief modern study of the craniology of the Griquas (1927) and of the Bushmen (1929), based on meager data, and he has, with Comas (1930), described the platymeric condition in Bushmen and Hottentots.

Drennan (1932) has published an article on the order of eruption of permanent teeth among Bushmen. Weninger (1936) has made a comprehensive study of pigmentation of the skin in Bushman tribes.

Broom's (1923) comparative study of the crania of Bushmen and Hottentots, though necessarily based on small samples, brings out some contrasts between the forms of Bushman and Hottentot skulls.



FIG. 44. Bushmen, Gomodino Pan, Kalahari Desert (courtesy of Arthur S. Vernay, copyright).

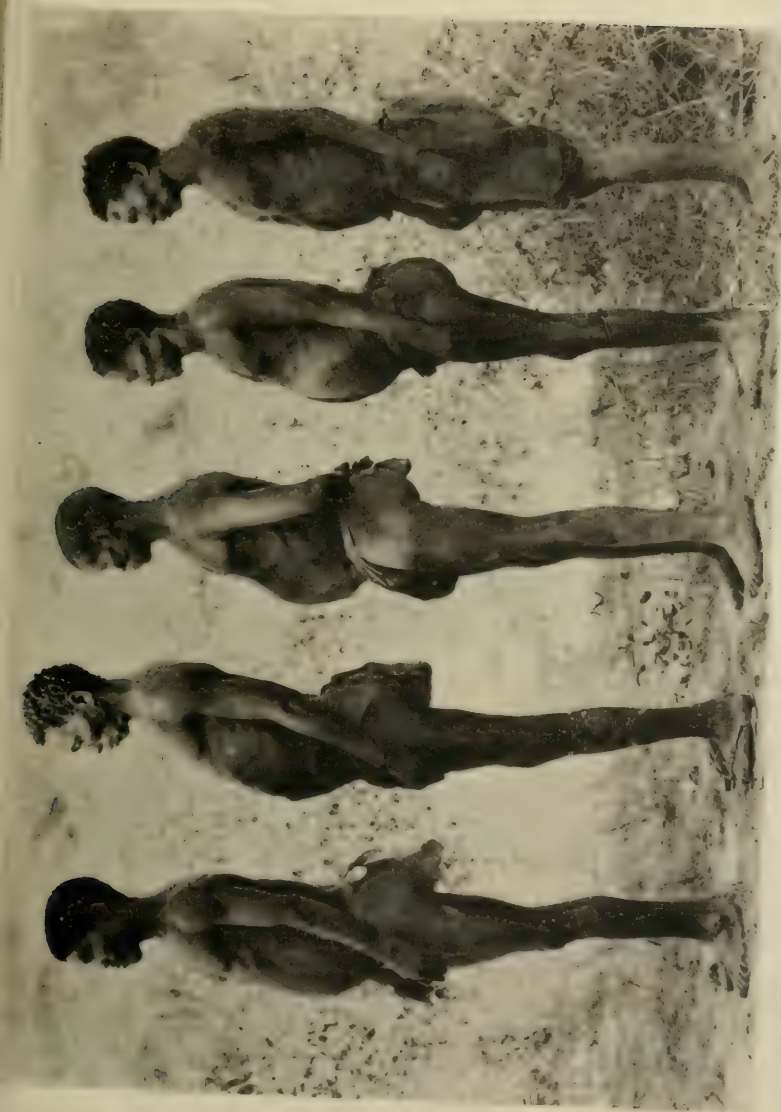


FIG. 45. Bushmen, Gomodino Pan, Kalahari Desert (courtesy of Arthur S. Vernay, copyright).

One arresting difference is the extreme dolichocephaly of a group of Hottentot skulls from old graves at Upington. The cranial indices of male skulls were 68.8, 68.4, 64.1, and 68.4. "The Hottentot skull differs from the Bushman type, not only in being extremely dolichocephalic but in having a much greater height measurement."

COMPARISON OF PHYSICAL TYPES

STATURE

At the lowest end of the height scale are the Aka and Efé Pygmies with statures of 1429 mm. and 1430 mm. respectively. Then in ascending order are groups of Pygmy foundation plus Negro blood, with average group statures ranging from near the true Pygmy level to 1609 for the Balese.

For Bushmen, tribal averages of statures range from 1477–1584 mm. (Table, 8), but figures are biased by small samples and adulteration. The only average for Hottentots (Naman) is 1624 mm. These measurements fall within the classification of short statures.

The averages for Negroes of the western, central, eastern, and southern groups are mainly medium (1580–1680 mm.). But some Negro tribes are exceptions, since they fall in the tall class (1680–1720 mm.). Among western Negroes the tall people are the Kabila, Pepel, Ekoi, Hausa (just within the tall category), the Mossi, and the Lobi.

Central Negro averages, with the exception of those for the Bushongo and the Azande (1747 mm. and 1701 mm. respectively), are all medium.

In east Africa the only tall groups are a Mozambique sample (1686 mm.) and the Landins (1686 mm.); these are, however, only just within the tall category. The Baganda come close to the low limit of the tall group.

South Africa has tall Zulu and Batonga groups, while the Bavenda are just outside the tall category. In Angola the Vachokue, Luena, Valuchazi, and Ovimbundu must all be classed as tall.

Nilotic Negroes are all decidedly within the tall category; there are no border-line averages. Some groups have averages of more than 1720 mm. and must therefore be classed as very tall. The stature is lowest throughout the Congo region, so far as the averages for scattered tribes can be trusted.

The Semites, with the exception of the Kababish (1709 mm.), are of medium height, and in the medium category most of the Hamitic groups have to be classified, with the exception of the



FIG. 46. Bushmen, Gomodino Pan, Kalahari Desert (courtesy of Arthur S. Vernay, copyright).

Tuareg (1725 mm.) and the Rif (1686 mm.). In the eastern Hamitic groups only the Somali are tall; the range of the averages of four Somali samples extends from 1707-1740 mm.

HEAD FORM

The Pygmy and pygmean groups have a rounded head form in the higher ranges of mesaticephaly, or actually above the 80 line of demarcation. Higher mesaticephaly of about 78 is common in the central African region, and this fact, combined with the somewhat lower ranges of medium stature in that region, lends support to a theory of wide dissemination of Pygmy groups and their mingling with Negroes. The tribal averages for C. I. of Bushmen range from 74-77 (Table 8).

For the main part the cranial indices of Negroes, no matter what their geographical situation may be, is in the higher ranges of dolichocephaly or in the lower ranges of mesaticephaly; generally the averages are in the class interval 74-77. There is remarkable uniformity, except that the Nilotic Negroes definitely show a lower dolichocephaly than the other divisions of Negroes.

Except for the brachycephaly of southern Arabia, which may have had some effect on African head forms, the Semitic groups have cephalic indices which differ little from the general trend of most Negro groups, and the same may be said of the cephalic indices of eastern Hamites. But the Tuareg (northern Hamites) are definitely long-headed. Together with Hottentots and Nilotic Negroes, the Taureg form a group in the ranges of low dolichocephaly (C. I. 71-73).

NOSE

The formation of the nose as expressed by the nasal index offers a distinction better than that afforded by either stature or head form. Pygmies are definitely hyperplatyrrhine and Negroes platyrrhine. The Semites and Hamites are definitely leptorrhine, with the exception of the Ababda, Bisharin, Hadendoa, and Beni Amer, whose noses are just broad enough to bring them within the mesorrhine category.

A few Negro tribes of northeast Africa, namely, the Baganda, Akamba, and Akikuyu, show a reduction of the platyrrhine condition which is characteristic of Negroes, especially the far western groups. Hamitic blood probably affected this trait, for in the Hamiticized Masai the nasal index is distinctly mesorrhine (76.2).

In considering the value of stature, head form, and shape of nose as distinguishing criteria, we have to recognize that there is much



FIG. 47. Bushwoman, near Gemsbok Pan, Kalahari Desert, wearing forehead band of ostrich-eggshell beads (courtesy of Arthur S. Vernay, copyright).

overlapping of groups. In extreme cases such as those of Pygmies and Nilotic Negroes, the factor of height marks off the groups in a decisive way, and some other groups are isolated by the height factor in unmistakable manner, but many Negro, Hamitic, and Semitic groups show similar averages. The same may be said of head form with the exception already noted. There is, however, a very definite value in the nasal index as a criterion for establishing somatic group differences. We do not find, for example, that any of the average nasal indices given for Hamites and Semites could be confounded with those for Negroes; there is no overlapping of values as there is when comparing average statures and average cranial indices.

Yet with more measurements, taken according to approved technique by people who were agreed on what they wanted to measure, the coefficient of racial likeness (C.R.L.) would be a valuable mathematical way of giving precision to our ideas of difference and resemblance (Pearson, 1926; and in simpler form Kitson, 1931, p. 296; and G. von Bonin, 1931, p. 253).

Anthropometric data from Africa seldom satisfy the conditions for a legitimate use of the C.R.L., but perhaps in future there will be the possibility of comparing major groups and subgroups within each of the major groups, with a view to establishing a graded series of coefficients showing the degree of group similarity or divergence with respect to a large number of traits.

Let us suppose that we have two groups, A and B, under comparison, and that the C.R.L. of A and B is required. Let it further be assumed that for both the A and B groups we have an adequate number of observations giving reliable averages for stature, head length, head breadth, height of nose, breadth of nose, bizygomatic width, height of face, cephalic index, nasal index, and face index.

Let $a-j$ be the averages for these traits in the A group, and $a'-j'$ the averages for the same traits in the B group.

Let $A-J$ be the number of observations in the A group and $A'-J'$ the number of observations in the B group.

We then require σ (standard deviation) of traits $a-j$ for any reliable series.

Then $\alpha = \left(\frac{a - a'}{\sigma a} \right)^2 \times \frac{A \times A'}{A + A'}$. Alpha is required for each pair of traits.

$$C. R. L. = S \frac{\alpha a \alpha b - \alpha a j}{10} - 1.$$

A close correlation of C.R.L. is expressed by a number less than 3.

There is not much to be gained by working out one or two coefficients. The figures we have collated (Tables 1-8) and the photographs show that Pygmy groups are bound to give a low correlation with Tuareg, and that a high correlation is likely to exist

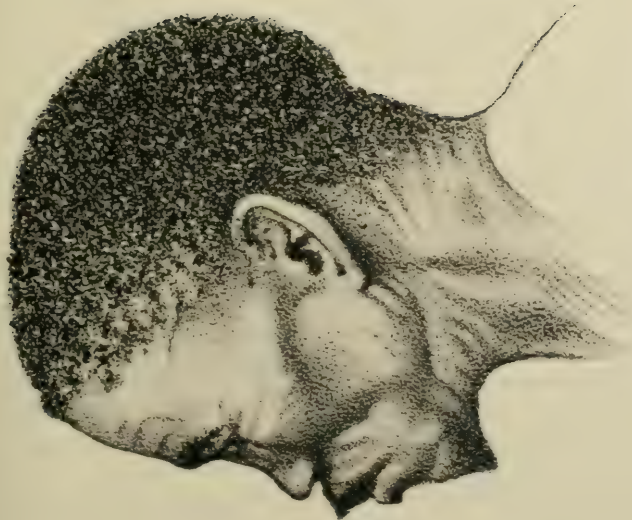
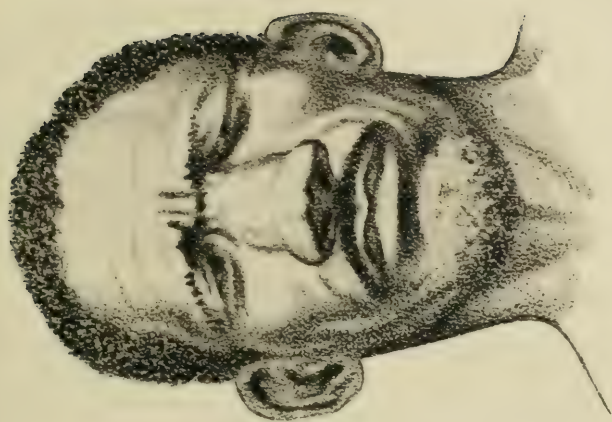


FIG. 48. Hottentot man, front and side views (after G. Fritsch).

between subdivisions of Bushmen. But with adequate data we could establish as a datum line a series of coefficients for the most diverse groups, then proceed to compare the similar groups. In this way we could formulate concepts of likeness and divergence that are now so vague because they are based on pictorial study and insufficient data. Such use of the C.R.L. has, however, been recently criticized by R. A. Fisher (1936), but his judgment is by no means final.

HUMAN ORIGINS AND MIGRATIONS

PALEONTOLOGY

In the preceding pages consideration has been given to the physical types inhabiting Africa at the present day. But the broader question of the origin, miscegenation, and dispersal of these different branches of the human stock was postponed because of the many theories that are involved.

Discussion of the prehistory of Africa (chap. III) included a summary of the types of fossil anthropoids and fossilized human bones that African soil has contributed to the total paleontological evidence. To summarize the whole of the geological and paleontological testimony is beyond the scope of this work, but a short course of reading will lead to the point where consideration of the dispersal of *Homo sapiens* can begin.

Duckworth's (1911) "Prehistoric Man," and Buttel-Reepen's (1913) "Man and His Forerunners" were excellent elementary textbooks in their day, and they are still useful for their summary of the discoveries of fossil man up to the time of publication. But during the past twenty years much new evidence has come to light concerning the dispersal of ancient anthropoid and early human types. In particular, the Neanderthal type of man has been shown to exist far east from the original European site of discovery. The paleontological evidence, as it stands today, may be gleaned from Keith (1929, 1931) and G. Elliot Smith (1931). W. K. Gregory (1934) has a work of a different type, for he is not concerned with summarizing the discoveries but in arguing against the thesis of Professor Frederick Wood Jones that "man has been derived, not from any early ape at all, but from a far older and long-extinct branch of Primates; man is distinctly related to the Spectral Tarsier of Borneo and the Philippines."

A brief summary of the paleontological evidence for the origin and dispersal of anthropoid ancestors and man is given by Hooton (1931) in an informative chapter entitled "Fossil Ancestors." The evidence

s elsewhere summarized by Hooton (1927) in an article "Where Did Man Originate?" There he favors Africa as the probable home of the Primates. But later (1931, p. 297) he states that discoveries near Peking in 1929 and 1930 call for a revision of opinion.

DISPERSAL OF PHYSICAL TYPES

As an introduction to this subject Haddon's (1911) "The Wanderings of Peoples" will serve admirably, since the text gives a condensed account of a great field of literature, and several clear maps are provided. But for perusal of current theories more advanced works must be consulted.

Professor Griffith Taylor (1930) has propounded a theory of human origins and migrations, and in a later contribution (1936, p. 367) he has given a bibliography of his writings on this subject.

In this modern study of anthropogeography Taylor has followed a method adopted by distinguished zoologists and botanists, who have worked from a center of origin and differentiation to a periphery to which, *ex hypothesi*, the oldest and most primitive types have been pushed.

Applying the general biological technique, including study of forms and natural corridors for expansion, the conclusion is that all dominant movements of mankind were centrifugal from central Asia. And, according to Taylor (1930, p. 36) the occurrence of a primitive anthropoid or human skull in a peripheral region tells us where *not* to look for the cradle land of man. According to the scheme, migration of man to the Americas was blocked for a long time by adverse climatic conditions, so that internal pressure forced the migrations west and southwest into Europe and Africa, also east and southeast into Asia and Australia.

The rise of physical types in the central region may have been due to physiological changes in the endocrine glands, as a result of changing climates following the alternating advance and retreat of the north polar ice cap. This recognition of climatic change as a dynamic factor in producing human movement corresponds with the theory set forth in Huntington's work, "The Pulse of Asia."

Following to some extent the teaching of Biasutti (1912), and reproducing some of that author's maps, G. Taylor (1930, p. 41) plots out a series of zones in the Old World surrounding the south center of Asia. Taking skull breadth and hair texture as criteria, the zones lead from a peripheral distribution of frizzly-haired, narrow skulls, through an area of wavy-haired skulls of intermediate breadth, to a central area of straight-haired, broad skulls.

In applying the theory to Africa, Taylor is of the opinion that Pygmies and Negritos are derived from an early human stock, possibly the earliest migrants, who followed, as it were, a biological *cul-de-sac* that led to no further phylogenetic development. Another early branch from the phylogenetic tree is thought to have been somewhat like Neanderthal man, and this experiment gave rise to Negroid and Australoid types. The Mediterranean and Alpine types evolved later.

So far as Africa is concerned, the theory represents the Pygmies and the Bushmen as the earliest immigrants. Then followed the true Negro as exemplified by western Negroes of the present day. The Hamites and Semites are perhaps lateral branches of the Mediterranean stock. Possibly the Bantu Negroes came as a migration from Asia long after the first arrival of true Negroes, or the Bantu may have arisen as a result of Negro and Hamitic mixture, in the region of the Great Lakes of Africa, whence they spread westward and southward.

Professor G. Taylor follows very closely to the teaching of Haddon (1911, p. 1), who states that a "migration is caused by an expulsion and an attraction, the former nearly always resulting from dearth of food, or from over-population, which practically come to the same thing." Taylor's "corridors," leading to the margins of habitable land, are what Haddon (1911, p. 5) calls "channels." Movements of men take the line of least resistance, but the word "barrier" is of relative meaning and few obstacles are completely prohibitive. Yet the picture of successive waves of migration should not be simplified too much, since the process involved much overtaking and the leaving of isolated "islands," as well as miscegenation and obliteration.

Keith (preface to H. Field, 1935, p. 75) contributes to this concept of migrations from Asia by reminding us of the present belt of darkly pigmented peoples which extends across the Old World. At one extreme of this "black belt" are the Negroes of Africa, at the other end the Negroes of the Pacific (Melanesians), and midway between are the brown peoples of India. Keith further pictures two areas of human origin to the north of this "black belt," one a Mongolian center and the other Caucasian. The Mongol stock at times broke into the "black belt" and spread into the Pacific. This would account for a Mongoloid appearance of some Polynesians (Guide to Races of Mankind, British Museum, 1921, p. 20, Fig. 4). Keith does not say so, but I think his suggestion accounts for a Mongoloid

appearance in some African people. Some Bushmen and Hottentots have such an appearance as a result of their Mongoloid eyes and high cheek bones. Meek (1925, vol. 2, p. 165) refers to a Mongoloid appearance of many Jukun and Nupe of Nigeria. C. G. and B. Z. Seligman (1932, p. 20) show men of the Mahdi and Bari tribes, with what are called pseudo-Mongoloid characters in their physiognomy.

The Asiatic theory we have so briefly glanced at is simple compared with that of Montandon (1928), who speaks of *ologénisme*, which is a hypothesis accounting for the origin and dispersal of man. Montandon (p. 210) states that "l'ologénisme est un monogénisme et un monophylétisme ubiquitaire," meaning, I take it, that the theory combines ideas of a simple origin of man, and a sending off of single lateral branches as the main trend of evolution continues. Montandon's diagram begins with *Homo sapiens*, who as a first effort throws off the "pygmoides," then advances, and at an unknown time and place the "tasmanoïde" branch is ejected. Then follow at intervals the "negroïde," "armenoïde," "esquimoïde," and "monoloïde," while the main stem continues triumphantly to the production of the "grand race europeoïde." The doctrine of *ologénisme* is said to absorb the two older theories of monogenesis and polygenesis of man. Montandon illustrates these theories with maps, and compares the process to the opening of a hand from which fingers shoot out in all directions. *Ologénisme*, on the contrary, is the gradual closing of the hand, a condensing toward a center. But the diagram (Montandon, Map 13), showing how people originated and dispersed according to the theory of *ologénisme*, attempts to show so much that I fear the chart defeats its own purpose.

If we do not allow our imagination to be too cramped by the physical argument, but take into consideration the spread of cultures and languages as well as somatic types, then there will be, I believe, a strong predilection toward the concept of an outward spread of succeeding waves from central Asia. The genesis of these somatic waves and their miscegenation leads to consideration of certain data from the fields of genetics, anthropometry, physiological observations including tests of blood groups, and environmental factors that are usually compounded under the term anthropogeography.

THE CONCEPT OF RACE

The word "race" has been much abused in an attempt to define some obvious somatic differences, and the present disrepute of the term as one unfit for scientific nomenclature was indicated at the

meetings of the British Association for the Advancement of Science, 1936.

All are agreed that no single somatic trait can be taken as a criterion of race, but there is no agreement respecting the combination of physical traits that may be fairly regarded as demarcating one so-called "race" from another. From one major somatic group to another there are infinite gradations, involving a mingling of physical factors, and so producing multiple types that are undefined except by such loose terms as Mongoloid, Pygmoid, Negroid, Caucasoid, Australoid.

Professor Garth (1931, p. 221), at the conclusion of his extensive studies in race psychology, states that the idea of "race" as something permanent "becomes an artificial notion, a myth. What we call races are merely temporary eddies in the history of human kind."

Despite the misuse of the term "race" biologically, linguistically, geographically, and sometimes with direct social and religious opprobrium, the physical anthropologist cannot afford to despair of finding some terms that adequately describe and demarcate an aggregation of physical traits. Hooton (1931, p. 397) states that "racial classification must be made upon the basis of a sum total of significant morphological and metrical features, according to the distinct variations of such features in large human groups."

Hooton clarifies the desired process of classification by pointing out three major groups of somatic traits; these in his opinion have a claim to consideration as determinants in a scheme of human taxonomy.

Of these groups of traits the first is the most important, since the factors are what might be called entrenched features. These traits, according to Hooton, tend to intensify themselves by the inertia of heredity. Such traits are the form, color, and quantity of the hair and its distribution in tracts; the color of the eyes and the form of the skin-folds of the eyelids. Another trait of like kind is the breadth of the head relative to the length.

In the second group are bodily characters which may have originated in functional modifications, but such traits have become stabilized, and they tend to persist even after they have ceased to serve the biological purpose and conditions to which their origin was due. Among such traits are pigmentation of the skin, height and breadth of the nose, and height of the head.

A third and taxonomically less important group of factors which are easily modified by environment (including nutrition, gait, and

occupation) are stature, weight, proportions of the hand, and the shape of the femur and tibia. To understand the discriminating value of these factors it is necessary to consider biological data having a direct bearing on the origin of somatic traits, their transmission, and persistence.

DIFFERENTIATION

Under this general heading the factors which are responsible for the origin of somatic traits and their transmission can be grouped. Some account can be given of the attempts that have been made toward definite measurement of the mechanism of heredity, and the results of hybridization can be studied by means of anthropometric measurements and physiological tests, including study of blood groups. Environment, too, is a factor that has to be considered in relation to the differentiation of types. There is no intention of dealing adequately here with these controversial subjects, but the factors should be mentioned to show the great complexity of our specific problem of accounting for the origin of physical types living in Africa today.

Simple textbooks dealing with the subject of genetics will explain what is known today of the mechanism of heredity, and though the powers of the microscope are far too feeble to confirm the hypothetical function of genes and ids, the function of chromosomes in cell division and transmission of physical characters is fairly well understood, since chromosomes can actually be observed during process of cell division. Two simple textbooks, Gates (1930) and Hurst (1935), will serve to explain the biological mechanism which is responsible for preserving unchanged, or for mingling traits during fertilization.

Hurst explains that the gene is the primary organizer and determiner of all structural and functional characters in living organisms. In a human being there are forty-eight groups of genes known as chromosomes, twenty-four of which are directly derived from the egg cell of the mother parent, and twenty-four from the sperm cell of the father. Hurst shows how recent experiment has explained the nature of evolutionary change. Under X-ray treatment two main types of alteration occur in the gene complex. These may be distinguished as (1) mutations, which are changes within the genes themselves, and (2) new distribution of chromosomes or parts of chromosomes which produce transmutations.

From the time of Lamarck (1744-1829) and Darwin (1809-1882) biological argument has been focused on the subject of evolutionary change. Use and disuse of organs, the rise of small variations, and

the perpetuation of some of these by natural selection, for a long time held the field as explanations of the rise of new species. In the middle of the last century Mendel worked out a scheme of the transmission of characters in peas, and finally the mechanism of this transmission has been explained by observation of the chromosomes and by hypotheses relating to genes within the chromosomes. How do these biological facts and hypotheses apply to the rise and perpetuation of different physical traits that mark off the varieties of mankind? And how shall such differences be accurately measured?

ENVIRONMENT

The belief that some environmental conditions can bring about the rise of new varieties seems to be well founded in laboratory experiments, known sometimes as experimental evolution. No doubt, much of the knowledge so obtained can be applied to explaining the physical differences of man. To speak of a mutation as a "spontaneous" change in the germ plasm merely shelves the problem. What is the cause of the change?

At present no satisfactory answer can be given, but J. R. de la H. Marett (1935) has summarized hypotheses relating to the biological and psychological effects of all kinds of environmental conditions. The endocrine hypothesis set forth by Keith in his presidential address to the British Association (1919) is examined, and consideration is given to the thesis that mineral deficiencies of the soil, and the resulting vegetable food, have influenced animal and human evolution. According to hypothesis many external factors may have affected the genes, and perhaps the cytoplasm of the cell as well, in order to produce those changes that give rise to new physical characters. Marett's argument has been discussed by Gates (1936). Bolk (1929) has further explained Keith's endocrine gland theory, and has advanced his own beliefs that some pronounced physical differences in mankind result from the fetal preservation of certain ancient and elementary characters.

Of the actual measurement of bodily change due to the operation of environmental factors we have two notable examples. Both the traits studied have generally been regarded as major distinctions of different human types.

Thomson and Buxton (1923) studied man's nasal index in relation to climatic conditions and concluded that a platyrrhine nasal index is associated with a hot, moist climate, and a leptorrhine nasal index with a cold, dry climate. The later work of Davies (1932) in

the main confirmed these conclusions. Boas (1912) has conveniently summarized his longer reports on changes in the bodily form of descendants of immigrants. The conclusions were assailed by several critics. Pearson and Tippet (1924) prepared an article on "Stability of the Cephalic Indices Within the Race," which led to the conclusion that the authors were unable to find any change of real significance in the cephalic indices for school children from five to twenty years of age. And "having regard to the fact that extraordinary environmental differences in this country (England) appear to make no significant change in the shape of the head, it is very difficult to accept Professor Boas' view that the child born to Jewish parents in Europe differs in head shape from the child born to the same parents after their arrival in America."

The details of this controversy are discussed by Hooton (1931, p. 408). G. Taylor (1936, p. 352) points out several reasons, supporting the opinion of Boas himself, why the changes in cephalic index, when slight and non-continuous, do not invalidate the index as a criterion of human varieties. Hirsch (1927, p. 89) concludes his measurements by offering the hypothesis that head length and head width are in great part determined by psychological factors operating by means of the ductless glands. Factors such as fear and anxiety exercise an influence on the glands, but when these factors are removed the relative glandular secretion is modified and a change in the cephalic index occurs.

HYBRIDIZATION

The effects of hybridization in Africa are plainly evident in a study of photographs of physical types from the continent, and later some consideration will be given to anthropometric evidence of hybridization, a subject we touched rather briefly in presenting data relating to the nasal index among Hamites and Negroes.

For modern and instructive data relating to hybridization reference must be made, not to observations on African Negroes, but to comparative studies of the colored and white populations of America. The best of these studies have been published in the past ten years.

Hooton (1926) reported on the study of race mixture with special reference to the work carried on at Harvard University. The studies included measurements and other observations of hybrid Hawaiian-Chinese and Hawaiian-European. The former hybrid is intermediate in stature, and there is a clear dominance of the brachycephaly and straight hair of the Chinese. In the first-generation hybrids,

resulting from crosses with Europeans, the darker Polynesian pigment is dominant, and the more finely cut European features tend to assert themselves.

Reference has been made to the inquiries of T. W. Todd (1928, 1929) and Todd and Tracy (1931) into somatic features of the American Negro and the stability of these traits during hybridization with the white people. Hrdlicka (1928) indicates the main traits of the full-blooded American Negro. Very comprehensive studies of racial crossing in Jamaica have been published by Steggerda (1928) and by Davenport and Steggerda (1929). The contributions of Herskovits (1928, 1930a) have been particularly helpful from the Africanist's point of view, for the social factors determining mating in American Negro groups have operated strongly in some African societies. It is possible greatly to underestimate the force of social customs and the prevalence of sociobiological standards in human mating. In Africa, for example, males of the ruling castes of Tuareg of Asben may have concubines of Negro origin. But, because of the reckoning of descent through the mother, it is difficult for even an influential man of noble caste to regard his son by such a mother as belonging to his own noble ancestry.

Students of anthropology are all familiar with the regulation of marriage by caste in India, and by a great variety of exogamic laws in many parts of the world. Endogamy too is sometimes enforced by topography as well as by social sanction, but the effects of social restrictions on determining physical types and perpetuating them have not been adequately studied. An attempt has been made, Brownlee (1911), to analyze physical mixtures into their original elements by use of the Mendelian formula.

QUANTITATIVE AND QUALITATIVE DIFFERENCES

Although it is impossible to frame a logical definition of race in terms of physique, there is no difficulty in getting a mental picture of the combined attributes which have hitherto roughly served to distinguish the principal varieties of mankind. And with further practice many subdivisions can be distinguished by inspection of photographs. Such a general knowledge, combined with definite measurable data, may be obtained from Haddon (1925) or from M. Schmidt (1926), both of whom made a world-wide and pictorial survey of the principal types of man. The nomenclature is, however, more troublesome, and ignorance of the physical type has to be concealed under such terms as pre-Hamite and proto-Hamite for Africa, while for South America the names of broad linguistic

divisions are often used. Nevertheless, definite advance has been made in qualitative and quantitative measurements by means of physiological and anthropometric methods.

ANATOMY

In superficial anatomy as in splanchnology an enormous amount of research remains in the field of comparative study. Expeditionary observers usually note some of the more obvious anatomical differences, but only a limited amount of material is available in dissecting rooms.

Recent detailed examination of the anatomy of the foot among south African natives is an example of the anatomical work that needs to be done (Wells, 1931). The following quotation shows how productive such work may be in helping to establish physical criteria:

"The foot of the South African native differs from that of the European in a large number of points, which affect the whole of its structure and are reflected in its action.

"The sole of the foot, which in the European is hollow, in the Bantu is flat, with a greatly thickened epidermis and a dense pad of subcutaneous fatty tissue filling up the concavity. The muscular system of the Bantu foot is highly variable, with a tendency to a more primitive type of organization than is seen in the European. Certain muscles, however, are much more constant in the Bantu than in the European. These invariably show a primitive formation. The main blood vessels are very variable, whereas the nerves are remarkably constant. The ligamentous system also is on the whole very constant.

"The bones of the Bantu foot show consistent differences from those of the European foot, and these are further exaggerated in the foot of the Bushman. In this last race the talus and calcaneus are more ape-like than in Neanderthal man. As a result of the differences in the individual bones, the architecture of the foot is different in the three races, the Bantu and Bushman having a less perfect arch system than the European. In association with these features, the feet of the African races are less rigidly constructed than those of the European, and retain traces of a former prehensile character."

ANTHROPOMETRY

The pages of "Biometrika" and similar journals give evidence of considerable research on skeletal material, but the samples are usually small and the facts established are meager in relation to the

unsolved problems. With regard to measurements on living subjects, the scanty data we gleaned from African sources show how little systematic work has been accomplished in such a vast area.

PHYSIOLOGY

The contributions of physiologists to the study of human differences are not numerous when considered in relation to the great field of research, but some advance has been made. Benedict (1932) has reported the progress made in studying the basal metabolism of the Maya, who show a metabolism of 5.2 per cent to 8.4 per cent above that of white men. This high metabolism is combined with a phenomenally low pulse rate. In Madras twenty-seven female Tamils had a metabolism on the average 17.4 per cent below that of American women. A group of forty pure-blooded aboriginals of South Australia showed definite minus value in metabolism when compared with white men. The racial effect on metabolism may be complicated by the factors of climate and diet. "The climate in southern India and the climate in Yucatan, however, are not so strikingly dissimilar as to suggest that climate can play a dominant rôle in these marked differences in metabolism." Such work on metabolism is extremely important, not only for the improvement of our knowledge of physiological differences among human types, but for the scientific study of diets which has just aroused the interests of African ethnologists ("Africa," vol. 9, No. 2, 1936, many contributors).

A contribution of Suk (1927, pp. 31-64) is a further illustration of the kind of physiological research that is needed to demonstrate differences and similarities between groups that have been vaguely classed as races or subraces. The research was carried out among Negroes of Natal and Zululand. Many lines of inquiry were undertaken, including observations of pulse, respiration, and temperature, and the investigator takes due cognizance of psychological factors that might affect the results. The pulse rates are close to those of white men, and investigation of this phenomenon is an apt illustration of the careful technique which has to be followed in such inquiry. Pulse rate varies with sex, stature, posture, and time of day. The frequency of respiration has variations with age and sex, but the differences for the south African Negroes as compared with white men and North American Indians are not great. Observations were made on skin color—which is lighter in females—on menstruation, development of breasts, and many other factors.

BLOOD GROUPS

Recent advances have been made in testing blood groups, with a view to establishing both a qualitative and quantitative measurement of differences that have hitherto been called racial. The nature of these investigations may be illustrated by referring firstly to some general literature, then to specific inquiries, including observations on Africans.

A simple explanation of the technique and terms used is given by M. Young (1928), and notes on the historical aspect are added. Based on agglutinative reactions, bloods are divided into groups *O*, *A*, *B*, *AB*. Bloods of the *O* division are those whose red cells carry neither of the agglutinative factors (agglutinogens). *A* bloods carry the *A* agglutinin only, *B* bloods carry the *B* factor, and *AB* bloods have the two agglutinogens *A* and *B*.

Anthropological interest in blood grouping goes back to the year 1919 when L. and H. Hirschfeld found that the proportion of agglutinin *A* predominated greatly over *B* in European peoples, but *B* predominated over *A* in Asia and Africa. Inhabitants of these regions were classified on the basis of a biochemical index or racial index which is the ratio of the percentage of the *A* factor to the percentage of the *B* factor ($\%A + \%AB / \%B + \%AB$). This procedure gave three groups of people:

Europeans with an index higher than 2.5.

Intermediate between 1.3 and 1.8.

Asio-African less than 1.0.

Later work showed that these divisions were arbitrary and many intermediate values of the index occurred. The factors *A* and *B* are inherited in a typically Mendelian manner.

Millot (1935) deals with the subject of agglutinogens in the anthropoid apes. He also gives data for blood-grouping tests in Europe that seem to be consistent with generally accepted ideas of consanguinity. Germans of Hungary react like those of Germany. Gypsies of Hungary are of the Hindu blood type; Hungarians are like Turks. Millot refers to the fact that pure-blooded Indians of North America are of the *O* group, and he asks whether they have lost the *A* and *B* factors, or whether separation from Mongoloid stock took place before the *A* and *B* factors had arisen by mutation. The statement is made that Australian aborigines have group *A* but not *B*.

Present-day discussion often refers to the work of Snyder (1926); this is a technical article with a large bibliography. Snyder gives

the following groups according to blood tests: European, Indo-Manchurian, Hunan, Intermediate, Africo-Malaysian, Pacific-American, and Australian. He gives a map (p. 255) showing the distribution of these types.

Kroeber (1934) adopted a plotting device to show the strength of the *O* factor on one axis and the *A* to *B* relation on another axis. He concluded that the current race classification would encounter about as many exceptions as corroborations of its scheme from blood-type classification. Kroeber also remarks that if the *A* and *B* factors are mutations, it seems likely they arose independently in more than one place, period, and population. Wyman and Boyd (1935, pp. 182, 185) explain that in human blood cells there are two other factors, *M* and *N*, which are inherited in Mendelian fashion like *A* and *B*, except that the two cannot be absent, though one only or two together can be present. Wyman and Boyd present two maps for showing the percentage distribution of the genes for *A* and *B*, respectively. An explanation (p. 186) is given to show how the frequencies are calculated.

These maps are of interest in the study of blood groups in Africa. Map 1 indicates a line passing along north Africa and through north Arabia into central Asia, and a second line extends through the Sudan Negro belt, right across Africa at about 10° N. Lat. This line passes through northern India, then turns south through the Malay Peninsula.

Map 2 indicates two north African lines, one of which passes from south to north through Italy to Scandinavia and beyond. The other north African line is plotted along the entire northern littoral of Africa into north Arabia, then due north into Scandinavia. A line is plotted from south Africa across the Indian Ocean into Melanesia. Yet another line extends from central Africa through south Arabia, touches the north of Madagascar and then extends to Borneo. These lines indicating similarities of reaction for the *A* and *B* factors, respectively, do bear some resemblance to the lines of hypothetical migrations between Asia and Africa as shown, for example, in Haddon (1911, Maps I and III).

In addition to these general articles dealing with the main facts of experiments in blood grouping, there are many papers dealing with specific areas. Gates (1934) has written on the subject of blood groups of Indians in British Columbia. Bijlmer (1935) has supplied some particulars of blood groups in the southwest Pacific. Field (1935, p. 460) quoting the researches of MacFarlane and Kennedy

with blood samples collected by a Field Museum expedition in 1934, gives the *O*, *A*, *B*, and *AB* factors for Arabs and other peoples. The authors quoted give bibliographies which lead out into a very extensive body of literature.

For beginning a study of the work done on blood groups in Africa the summary of E. W. Smith (1935, p. 42) is a useful starting point, and the bibliography given there names the principal contributions to the subject. Other articles that give a digest of the main points are Elsdon-Dew (1934), Parr (1931), and Pijper (1930). Parr's article gives a clear explanation of the Wellisch (1927) *p.q.r.* formula and the method of plotting the values of these terms. The frequencies of *A*, *B*, *O* are *p*, *q*, *r*, respectively. Parr states (p. 26) that studies of blood types of Egyptians show them to be unlike Arabs of western Asia and parts of north Africa. The original Egyptian strain seems to persist physically despite Arab conquest and occupation. That the experiments with Egyptians should indicate Mongol or Indo-Manchurian relationship is not explained.

Two of the most valuable tables for giving considerable information in small compass are those of Elsdon-Dew (1934) and Pijper (1930). Often, as in dealing with anthropometric measurement, the results are based on samples too small to be reliable, but, on the contrary, several results are derived from examination of more than the five hundred individuals considered necessary as a representation of the group. The indices for Negroes of Senegal, and for the Yoruba are 0.8 and 0.9, respectively, and for Negroes of the Belgian Congo the index is the same as that for the Yoruba. For American Negroes the index is 1.3, the high index being due to an admixture of white blood.

The Bushmen, with a high *O* value, a low *B* value, and an index of 2.5, occupy a peculiar position in the blood-grouping scale. The high value for *O* leads to the suggestion that the Bushmen are the earliest African inhabitants, and Jadin's table (1936, p. 183) shows the Bushman index to be far removed from that of the Ituri Pygmies. Moreover, the *B* element in Bushmen is small compared with that of Pygmies. Pijper (1930, p. 314) finds the rather high index of the southeastern Bantu difficult to explain. The index is 1.3, which is the same as that for American Negroes, though there was no mixture of white blood with the Bantu samples examined. Pijper asks whether the Bantu have to be regarded as direct descendants of Hamites with a slight admixture of Negro blood. There appears to be no Hamitic index for comparison, and at present there is no

satisfactory explanation of the fact that the index for the south-eastern Bantu is 1.3 while that of other Negroes (Senegalese, Yoruba, Belgian Congo, French Congo) varies from only 0.8 to 1.0.

The tests are of definite value, however, in showing a reliable series of distinctive *O*, *A*, *B*, and *AB* values and a characteristic index for Pygmies, also a specific series for Bushmen, as well as for Negroes. The tests (Jadin, 1936) were successful in distinguishing Ituri Pygmies of pure blood from those having a mixture of Bantu Negro blood. All writers agree that in such tests we have something of definite value as a criterion of physical type, but at present the phylogenetic implications are not well understood.

AFRICAN MIGRATIONS AND MIXTURES

A study of prehistory (chap. III) summarized the small amount of information available respecting fossil man in Africa. The section dealing with stone implements showed that Paleolithic man had a wide distribution far back in the Pleistocene, and considerable evidence was adduced to indicate that new immigrants introduced new stone-age cultures, which they distributed extensively. But for the main part of the continent little is known of the physique of these wanderers, and the discussion of migrations is carried on in terms of stone-age culture.

With regard to present-day types, photography, anthropometry, and blood group tests are of service in establishing the presence of some distinct physical types of unknown history and phylogeny, and some plausible theories of origin and migration are advanced. But despite all this research anthropology can give no certain answers concerning the peopling of Africa, and the following summary is largely conjectural.

Pygmies and the Khoisan.—In the absence of a better theory we have still to accept the idea of central or southwest Asia as a biological laboratory and center of dispersal. The hypothesis has considerable support from paleontology, study of somatic types, and distribution of languages and cultures.

According to this theory the Pygmies of central Africa must be regarded as a southwest migration of a stock which was one of nature's early experiments in differentiation. The picture of a tree trunk representing human stock is familiar, and from this primary stem lateral branches were thrown off at intervals. But when the diagram is drawn we do not know whether to sketch a branch depicting Negroes sending off lateral branches representing Pygmies

and Bushmen, or whether to show these distinct types as arising directly and independently from the parent stem. Another possibility arises, for the Pygmies can be represented as an early direct branch, issuing from the parent stem before Negroes were produced, and later giving rise to the Bushmen.

In brief, the phylogenetic relationship of Negroes, Pygmies, and Bushmen is unknown. That the Pygmies were an early and widely distributed African people is attested in several ways. Dr. A. Werner (1925, vol. 7, pp. 258-269) has collated legendary evidence from many central and eastern African tribes to show how widely spread are stories relating to the "little people." Further research, for example, that of Jacquier (1935) tends to extend the area over which Pygmy tribes once roamed. Stannus (1915) discusses some east African legends of Pygmies; so also does Schweiger.

Moreover, the scattered groups of extant Pygmies, and crosses between Pygmies and Negroes, are proof of an extensive distribution in the central forest area. Anthropometry, as well as blood-group tests and general appearance indicate that Pygmies differ appreciably from Bushmen, whose blood-grouping factors are very unlike those of any other African people. Hirschberg (1934) has made a brief comparative study of Bushmen and Pygmies in which he has examined the validity of hypotheses with regard to their phylogenetic and cultural relationships. But the fact remains that very little evidence is available for study of a Pygmy language, though there is a suggestion that such existed. Neither are the anthropometric data for the Bushmen adequate for comparison with those of the Pygmies. As previously indicated, the evidence for wide distribution of Pygmies is satisfactory, and a picture of a centralized substratum of Pygmy peoples is permissible. But the hypothesis that Bushmen migrated from north Africa rests on cultural evidence of stone artifacts and mural art, together with survival of a click language in Tanganyika. The absence of skeletal remains and of living Bushman types in the alleged areas of migration still leaves valid the rival hypothesis of evolution of a Bushman type in south Africa.

With regard to miscegenation of Pygmies with Negroes and the production of intermediate types there is conclusive evidence. Bushmen have likewise mixed with Negroes, and the Hottentot is probably a product of Bushman miscegenation with Negro, Hamite, or both.

Some of the facts of Pygmy miscegenation with Negroes were adduced in discussing the low stature and the high mesaticephaly of certain Congo and Cameroons tribes. And to the data mentioned

other corroborative facts may now be added. The anthropometric data of Poutrin (1910, 1911, 1912, 1914) for the Sanga Pygmies is a clear demonstration of the hybrid nature of these tribes whose stature, cephalic index, and form of nose are intermediate between those of true Negroes and pure-bred Pygmies. The figures of Kuhn (1914) corroborate those of Poutrin.

F. Starr (1909, p. 105) gives anthropometric data for a group of ten adult Batwa males. He finds that the average stature was 1542 mm., or about five feet, considerably in excess of measurements for Bambuti Pygmies. The nasal index for this group is comparable with that of Bambuti Pygmies, though somewhat lower, that is to say, the noses of the Batwa are not quite so broad as those of the true Pygmies. The cephalic index Starr gives as 77.2, which is rather lower than that of the true Pygmies.

Of the remnants of former Pygmy tribes in Abyssinia, A. D. Smith (1897, pp. 272-275) says the chief characteristics of the Dume Pygmies were a black skin, round features, woolly hair, small oval eyes, rather thick lips, high cheek bones, a broad but not remarkably receding forehead. Donaldson Smith believes that Pygmies inhabited the whole of the country north of lakes Stefani and Rudolf long before any of the other tribes now to be found in the neighborhood; but they have been gradually killed off in war and have lost their characteristics by intermarriage with people of large stature, so that only this one little remnant, the Dume, remains to prove the existence of a Pygmy race.

In conclusion of the subject of Pygmy admixture with Negroes, Schebesta's (1934) "*Vollblutneger und Halbzwerge*," should be consulted for an expansion of the facts relating to crossbreeding given in his statistical data (1933). Lebzelter (Lebzelter and Schebesta, 1933, p. 69) sums up as follows:

"Finally I wish to advance my opinion that basically the pygmiforms are identical with the pure breed pygmies, but that they have acquired new racial features different from those of the Pygmies by mixing with different Negro races, and partly perhaps also under the influence of a different environment." Fig. 53a gives a clear impression of the Batwa type of Pygmy, who has been produced by the crossings of true Pygmies and Negroes.

In the absence of sufficient anthropometric data for Bushmen and Hottentots, no definite statement of their similarities can be made. In physiognomy they are much alike, but differences in skull form and stature have been noted. Broom (1923a, p. 142)

describes the Hottentots as being one of the most long-headed of all peoples, with a cephalic index of under 70 and sometimes as low as 64. In the pure Bushman the C.I. is 76-80. Broom further states (1923b, p. 288) that physically the Korana seems to be a Hottentot with an appreciable Bantu or other Negro strain, and also blood of the Australoid race. Vedder and Fourie (1928, pp. 39-78) discuss the hypothesis that the Hottentots were sheep and cattle herders who migrated down the east side of Africa, and that on their way they enslaved the Berg Damara, a people of Negro appearance who now speak the Hottentot language, which has Hamitic elements. E. Fischer (1913) has written a comprehensive work describing the miscegenation of Hottentots and Dutch; to the crossbreeds he gives the name Rehobother Bastards. His map (p. 6) shows the topographical distribution of five main groups southwest of Windhoek (Windhuk) in southwest Africa. Fischer gives several tables to show the intermediate values of anthropometric measurements of Bastards between those for Dutch and pure-bred Hottentots. Table 3 (Fischer) shows the cephalic index of the Bastards to be about 75-76, in between 80.3 for the Dutch, and 73.4-74.8 for Hottentots. The same merging of traits is indicated by the inter-orbital width, the bizygomatic, and height of the face, because Bastards have intermediate measurements. But from Table 8 (Fischer) the Hottentot form of nose appears to be dominant. The N.I. for pure Hottentots is given as 91.5, for the pure Dutch as 65.7, and for the hybrids as 85.5, which is much closer to the pure Hottentots than to the Dutch index. The measurements, geographical tables, and photographic plates constitute one of the most detailed sources available for the study of crossing of types in Africa. For the social and economic results of race mixture consult editorial notes in "Africa," vol. 10, 1937, p. 115. There a brief summary is given of the views of the Congrès International.

Negroes.—The place of origin, the time of branching from the primary stem, the wanderings in Africa, and the differentiation in language and physique among Negroes are open questions. That African and Melanesian Negroes have had a common origin in the hypothetical Black Belt of south-central Asia is feasible enough, but we do not know.

M. Delafosse (1931, p. 5) says, "It appears then that one may, until proof to the contrary be forthcoming, admit as established the theory according to which the Negroes of Africa are not, properly speaking, autochthonous, but come from migrations having their

point of departure toward the limits of the Indian Ocean and the Pacific." Delafosse means that the ancestors of present African Negroes invaded Africa after separating themselves from a Negro matrix which included Negroes of a Melanesian type. This, however, is mainly speculative, but corroborative evidence in the form of a *kulturkreis* theory seeking to establish relationships between Melanesia, Indonesia, and Africa will have to be mentioned later. The current belief is that true Negroes were forced westward across Africa, where they are now represented in physical type by the tribes of the Niger Delta, and by the Kru of Liberia. The Hamitic invaders are known to have mixed with the conquered Negroes, so producing an almost endless gradation of types, somewhere between the sturdy, platyrrhine, almost black Negro and the brown-skinned, mesorrhine or leptorrhine Hamites.

The physical appearance of Negroes in widely separated areas has previously been discussed, with the result that, despite some obvious differences of build and physiognomy, and the existence of broad linguistic divisions such as Sudanic and Bantu, the similarities of types are more impressive than the differences. We found the Nilotic Negroes to be the most distinctive of the Negro types considered. "A Survey of the Ethnography of Africa" (Johnston, 1913) is a useful summary of hypothetical migrations, and of some recent movements of Negro tribes that can be vouched for by documentary evidence from the period A.D. 1500 onward. But some of Johnston's views need critical examination. He states, for example, that "the Congo Pygmy seems to be little else than a primitive and dwarfed form of the Forest Negro, perhaps representing one of the earliest types of Negro that invaded Africa." Recent research, as we have seen, establishes the Pygmies as something more specific than a degenerative Negro stock.

There is no lack of reliable evidence of Negro migration during the historical period in west, central, east, and south Africa. And this evidence is to be sought in European records as well as in the genealogies and traditions of African chiefs. Moreover, there is the testimony of cultural traits and of languages. Beyond a doubt there has been a great ebb and flow of Negro tribes, with consequent mixture among themselves and with the conquering Hamites and Arabs.

In the eastern Sudan the activities of the Mahdi led to depopulation of large areas by raiding for slaves. The victims were transferred to Omdurman, from which center they were widely distributed.

Slave caravans have crossed from the western Sudan to north Africa, and both Arab and Berber tribes have received an addition of Negro blood. The depredations of Rabeh toward the end of the nineteenth century caused shifts of population throughout the Sudan, and especially in the neighborhood of Lake Chad. Warfare between the great empires of the Niger, and between those of Nigeria have also been responsible for tribal mixtures.

In east Africa the salient events affecting the physique of populations are focused in caravan trade and warfare. Caravans of slaves from the far interior were brought to Zanzibar, where they were sold and widely distributed. The Baganda have within historical times extended their dominion round Lake Victoria Nyanza. The Masai have swept southward down the eastern side of the continent. Internal dissension among Zulu tribes caused independent leaders to march northward, so affecting the Bathonga of Portuguese East Africa, the Wayao, the Wanyamwezi, the Wahehe, and even tribes as far north as the southern shore of Victoria Nyanza.

Movements of Negro tribes in the interior of Africa have occurred on a large scale within historical times. Migrations of the Bushongo from the Shari River to their present location in the southwest of the Congo Basin probably took place about the sixth century of our era. The Baluba, who are a part of the Bushongo, journeyed from highlands north of Lake Tanganyika. The Fan, who now live north of the mouth of the Congo, crossed to their present position from the northeast of the Congo area. In A.D. 1600 the Jagas, a predatory tribe, were moving over wide ranges of territory in northern Angola, raiding for slaves and carrying these for long distances. The Ovimbundu have formed long-distance caravans that have ranged across Africa, returning with slaves and ivory, and this traffic continued until late in the nineteenth century. These are but a few of the instances of events that have led to the mixture of physical traits, languages, and cultures, but the examples indicate the nature of the migrations that have been accessory to the main mass movements of physical types.

The following authors have made contributions to the study of recent movements of Negroes. Wild (1934) quotes Reindorf (1895), who has contributed a "History of the Gold Coast and Ashanti." Urvoy (1936) produced a study of the "History of the Population of the Sudan." A. E. Robinson (1929) has contributed to our knowledge of Arab and Negro contacts in the Province of Sennar, eastern

Sudan. Johnson (1921) and Dalzel (1793) should be consulted for the history of the Yorubas and Dahomeans respectively.

Beyond a doubt many important movements of laborers and traders have occurred within recent times. But our ideas of the amount of miscegenation due to this influx must be modified by Migeod's (1919) study of "Tribal Mixture on the Gold Coast." He states: "The ethnological influence of foreigners, whether European or African, on the original population of the colony is very small indeed, and were any financial change to take place so that trade and industries declined, it would be found that the majority of strangers would return to their homes, with the result that their past sojourn in the country in so many thousands would be scarcely discernible."

This applies, however, only to voluntary and indentured labor introduced for specific purposes into various parts of Africa. It is conceivable that mine laborers might be introduced from many different regions and that they would represent several distinct physical types. Yet they might return at the end of their contract without having made any appreciable difference to the physique of the people among whom they temporarily resided. This, however, does not minimize the importance of warfare, slavery, and secession among ruling families, as factors in miscegenation.

In dealing with the history of several Congo tribes, Torday (1928) has condensed considerable information into small compass. He attaches great historical value to the clan songs of the Bakongo and the Batetela, and he gives instances of the chronological use of oral traditions of eclipses of the sun. Bushongo tradition, which is a compound of fact and mythology relating to the great ruler, Shamba Bolongongo, is examined, and Torday's bibliography includes references to the works of early Portuguese explorers and priests.

Young's (1933) study of "Tribal Mixture in Northern Nyasaland," with an excellent map, is an example of the kind of local study that is really illuminating. Portuguese sources as far back as A.D. 1616 are consulted, and a study is made of the distribution of tribal groups before they were disturbed by intrusions. Examination of present traditions indicates the value of place names in determining migrations. The cultural effects of intrusions are examined, and a summary is given of the major conflicts, including those with southern intruders who came north about A.D. 1845. The data provide instructive instances of cultural and physical miscegenation arising from trade and warfare.

Before undertaking a detailed study of the migrations of Bantu tribes in south Africa there are introductory articles that should be consulted. Fantham (1936), with the aid of a tribal map (p. 154), discusses the entry of Bantu into south Africa from the eastern side of the continent. He postulates a series of waves of invasion from east-central Africa and states that there can be no doubt of the northern origin.

"In the eighth century, the Bantu were known to Arab and Persian traders on the East Coast under the names of Kafir (infidel) or Zeng (black). Probably at this time they were living in the area now known as Northern Rhodesia. As recorded by El Masudi in the tenth century, the Bantu tribes were known to be around Sofala, having crossed the Zambezi but not the Sabi River. The Hottentots or Wakwaks were then to the south of them.

"Apparently there were three main streams of Bantu migrating southwards, by the west coast, the east coast, and more or less central routes, conquering and mixing with their predecessors as they went.

"The Bantu migrating by the western route became known as the Hereros. They settled south of the Cunene River and around Lake Ngami and extended to the Atlantic. They included the modern Ovambos or Ambos and sub-tribes. Under European rule, especially during the German domination in South West Africa, some became scattered and a few entered the Waterberg district of the Transvaal.

"The most important streams of migration were those by the East Coast. Of these, four linguistic groups of Bantu can be distinguished, and these seem to correspond to some extent with waves of invasion. These four groups are the Makalanga and the Bechwana traveling inland and more central, and the Bathonga or Baronga and the Zulu-Xosa or Zulu-Kafir along the coast. The Bechwana and the Zulu-Kafir are especially important."

The notes of Fantham on hybrids are particularly germane to our present subject. He points out that during intertribal warfare conquerors killed the vanquished males and absorbed the conquered women into their own tribes. As examples of hybrids Fantham gives the Korana, who are Hottentots with some Bushman admixture, and the Berg Damara, who are early Bantus with Bushman and Hottentot blood. The Ba Tamaha, near Potchefstroom, are mixed tribes of Ba Lala and Bushman origin. The Ma Sarwa or Vaalpeens, hybrids of Bushmen and Ba Kalahari, are the cattle herders of the Ba Mangwato. The Ba Thlaping are a Bechuana stock who

married Korana wives, and in this cross the Bushman and Hottentot characters are dominant to the Bantu. Many other mixtures are described.

Some data are given by Fantham under the heading "Eurafrican Admixtures," two principal crosses being those between white men and Hottentot women, and between white men and Xosa, Tembu, and Fingo women. Diagrams are given to illustrate the progeny of a fair-haired, blue-eyed Belgian with a Zulu woman, of a Dutch-Xosa marriage, and other crosses, including those of Tamils and Zulus, Chinese and Xosa. The article concludes with a survey of the results of miscegenation, which gives rise not only to social and economic problems, but sometimes to physical deterioration of offspring, and to family discord. The subject of miscegenation has also been treated by G. Findlay (1936).

Dicke (1932, p. 793) gives a brief summary of Bantu migrations into south Africa and the routes by which they traveled. Portuguese records show that about A.D. 1500 the eastern branch of the Bantu migration, of which there were also central and western branches, had advanced southward along the coast to the region of Delagoa Bay. A century later the migration was south of Delagoa Bay and fifty years after that had reached Natal. Dicke does not describe the western migration into Angola and South West Africa, but he analyzes the causes that retarded the central migration while the eastern and western wings were advancing southward.

These brief publications describing the migrations and miscegenations of the Bantu introduce two comprehensive works, "Olden Times in Zululand and Natal" (Bryant, 1929), and "The South-Eastern Bantu" (Soga, 1930). These are works of great detail, giving an account of tribal histories, genealogies, conquests, and miscegenation. See also Krige (1936, pp. 1-22).

Hamites and Semites.—The origin and remote history of the Hamites and Semites is unknown, but both are offshoots from a greater stock termed the Mediterranean. The origin of this stock is unknown, but presumably it arose in Asia and certainly spread westward along the African and European shores of the Mediterranean Sea. Hooton (1931, p. 506) summarizes the physical characters that are typical of the Mediterranean stock. The head form is dolichocephalic, and the heads are either low or of medium height. The occiput protrudes, the forehead is vertical, and the development of brow ridges is slight. Hair and eye color vary from black to dark brown, and skin color is extremely variable, from pale olive brown

to dark brown. The face is oval and narrow, and the nose leptorrhine with N.I. 65-69. The stature is about 1620 mm.

Sergi (1901) gives full details of this Mediterranean stock and a list of European and African peoples derived therefrom. The populations of Spain, Italy, and Greece are basically Mediterranean stock, and in Africa the Libyans (prototype of the present Berbers), Tuareg, Somali, and Arabs are regarded as specialized branches of *Homo mediterraneansis*.

G. Elliot Smith (1911, pp. 49-51) gives a description of the Proto-Egyptian physique and speaks of these peoples as "kinsmen" of the Mediterranean group who were subject later to alien mixture. The skeletons of Proto-Egyptians with dried flesh adhering have been preserved from the pre-dynastic period, before 4000 B.C. The physical type was slender, almost effeminate. The stature was about 1650 mm., and the head was dolichocephalic. The hair, which sometimes had a reddish tinge, was similar to that of the brunet South European or Iberian of the present day. "It was a very dark brown or black colour, wavy or almost straight, and sometimes curly, but it presented no resemblance whatever to the so-called 'woolly' appearance and peppercorn-like arrangement of the Negro's hair." Interments of the pre-dynastic period show that the Proto-Egyptians were buried on the left side with the knees flexed to the chin. Underneath the body was a mat, and near-by were flint implements together with red pottery jars having black rims.

Skeletal remains indicate that people of another physical type imposed themselves on the slenderly built people who inhabited Lower Egypt before the dawn of datable history. The bones of these new arrivals indicate that they were of sturdier build, also that their heads were rounder and their jaws more massive than those of the pre-dynastic Egyptians. The mixing of these types led to the establishment of an Egyptian type that has remained remarkably constant to the present day.

With regard to the preservation of an ancient Egyptian type and the slight admixture of Negro blood, C. G. Seligman (1913, p. 606) states: "In stature the Beni Amer and the pre-dynastic Egyptians stand close together, the former measuring about 1.64 m. and the latter 1.63 m. It seems then that it is justifiable to regard the Beni Amer, the least modified of the Beja tribes, as the modern representatives of the old pre-dynastic Egyptian (and Nubian) stock, and it further appears that the modification undergone by the latter during a period of some 7,000 or more years is extremely small.

"An examination of a small series of Hadendoa skulls, now in the Royal College of Surgeons, affords nothing but confirmation of the view that these Beja tribes are closely related to the Proto-Egyptians. Although the Beni Amer are shorter than their northern congeners, there is no regular rise in stature as there is in cephalic index from south to north. The very considerable difference between Beni Amer and Hadendoa is no doubt to be explained as a result of miscegenation with the tall Negroes of the Nile Valley. It needs only a glance at any considerable gathering of Hadendoa to be convinced that as a people they have absorbed much Negro blood. My impression is that the Bisharin are less mixed."

Morant's (1925) discussion of a long series of male Egyptian skulls, divided according to localities and dynasties, traces out the changes that took place during the evolution of the Egyptian type. His series extends from pre-dynastic to Ptolemaic times. The following quotations indicate the preservation of type and the absence of appreciable Negro mixture.

"In early Pre-Dynastic times there were two distinct races of man living in Egypt; one in the Thebaid and the other, it is supposed, in the Faiyum. These may be called the Upper and the Lower Egyptian races. They were closely related to one another as two adjacent peoples are generally found to be, and there can be no doubt that they diverged from the same branch of the human tree at no very early date.

"The Lower Egyptian type seems to have remained unchanged from Early Dynastic to Ptolemaic times except that a relatively small part of the population was modified very slightly, possibly by admixture with some unknown foreign race.

"The Upper Egyptian type was slowly transformed from the very earliest times in which we have acquaintance with it, and by Late Dynastic times the population of Upper Egypt was of almost pure Lower Egyptian type.

"It is very generally supposed that the population of ancient Egypt was sensibly affected at various times by the infusion of Negro blood. But in the series of which we have the mean measurements it is not possible to detect the slightest effect of any such admixture that can have taken place after early Pre-Dynastic times. Apart from isolated negroid skulls . . . the populations appear to be quite homogeneous and we have no reason to suppose that the mean type was affected in the slightest by admixture with any race foreign to Egypt."

C. S. Myers (1906, p. 239) gives a list of regions where he made anthropometric measurements. The figures for nasal indices indicate that in living Egyptians of today there is a slight broadening of the nose among people living farther south. In the delta region the average group indices varied from 73.4 to 76.7, but farther south, near the Negro belt, the nasal indices became 77.8 to 78.9. Fig. 35 shows two present-day Egyptians of Luxor. One is a Hamitic type, and the other shows Negro admixture.

Analysis of the elements entering into the composition of north and northeast Africans at the present day is a complex exercise. If we visualize a Mediterranean stock with the branches previously mentioned, we have then to allow for miscegenations of the varieties of this stock with people inhabiting north Africa when *Homo mediterraneansis* arrived. Moreover, later incursions have also to be considered.

Hooton's summary of the migration of physical types along the north African littoral has been quoted (chap. III, Prehistory). The colored maps of Bertholon and Chantre (1912) giving distribution of statures, cranial indices, nasal indices, and pigmentation show how complicated the miscegenation, the wanderings, and isolation of types have been. For the main part distributions are discontinuous and certain types are left as islands. Bertholon and Chantre summarize the types thus: (1) dolichocephalic and small stature; (2) brachycephalic and small stature; (3) dolichocephalic, tall, and leptorrhine; (4) types of southern oases showing Negro admixture.

The first group has a stature of 1630 mm., a C.I. of 73-75, and an N.I. of 70-74. Group 2 has a stature of 1640-1650 mm., a C.I. of 79-82, and an N.I. of 68-70. Group 3 has a stature of 1700 mm. or more, a C.I. of 73-76, and an N.I. of 66-68. With such main varieties a large number of subvarieties is possible.

The same kinds of analyses have been made by Cerulli (1935) and Cotteville-Giraudet (1930). The latter distinguishes seven types that are still discernible in the present-day north African population. He gives the distinguishing traits of each and type photographs. According to Cotteville-Giraudet (p. 148) the composition of the present population is *Homo mediterraneansis* 40 per cent, *H. atlanticus* 25 per cent (original Paleolithic people), *H. semiticus* 20 per cent, *H. nordicus* 5 per cent, *H. negroidus* 5 per cent, *Niger africanus* 3 per cent, *H. asiaticus* 2 per cent (Neolithic).

Among the unexplained physical traits of north Africa are the peculiar skulls from the oasis of Siwa. Derry (1927), relying more

on the acroplatic index ($100 B-H'/L$) than the cranial index, finds traits, for example, the basi-bregmatic height, that do not occur elsewhere among African crania. For comparable figures the craniology of the English, German, and French have to be consulted (p. 204). The nasal index of Siwan skulls is near to that for Europeans. The cranial capacities for both males and females are lower than those for Europeans but much higher than those for Negroes. Derry states that the Siwan skulls are not Egyptian but does not definitely classify them. Siwa has always been remote and secluded. Is it possible that we have in these Siwan skulls a sample of the European branch of the Mediterranean stock, a branch which did not advance far into Africa, but became isolated at Siwa?

Inquiring into the problem of blondness might conveniently start with an article by Kidder (1927), who discusses the pigmentation of the skin, hair, and eyes of the Kabyles. Kidder criticises the vague use of the word blondness; terms are needed to describe degrees of this trait, which varies from complete blondness of three factors to one blond trait. Coon (1931, pp. 348-386) gives this subject a thorough investigation. He uses mathematical methods to describe the degree of association between each pair of blond factors, and between factors of blondness and anthropometric measurements.

"In each of the three areas Rif, Senhaja, and Ghomara the blonder types segregate themselves out from the brunet types in a European direction." Coon (p. 386) speaks of one of the central types as being like a blond north European.

Sergi (1901, pp. 61-69) surveys the history of discussion respecting the entry of these blond people, their mingling with a dark Mediterranean stock, and the possibility that these blonds (*Homo nordicus*) were the dolmen builders of north Africa. Sergi (p. 74) attributes the blond factor to altitude, but his theory, like the one attributing blondness to the Goth and Vandal invaders of A.D. 500, is not now seriously regarded. Hooton (1925, p. 76) gives references to show that the presence of blonds in north Africa, for example among the Libyans, was anciently observed and recorded. But we do not actually know the origin of the blond element unless it came from Nordic Europe; or perhaps blondness was a trait of the north African brand of the Mediterranean stock.

There are, however, problems of miscegenation that are explainable by anthropometric measurements, especially the nasal index, as well as by general description such as that given by Delafosse (1894) for the eastern Hamites. Lester (1928) illustrates the effect

of Negro mixture on the Galla. The Negro element is indicated by dark skin color, prognathism, and a high mesorrhine nasal index of 77.5. But for twenty-two Somali of Hamitic type the N.I. was low, 65.7, though there was a variability in width of nose and thickness of lips that indicated Negro admixture (Radlauer, 1914).

Anthropometric studies of the Tibbu of Tibesti in the eastern Sahara illustrate the effects of Negro mixture with what appears from the photographs to be a Hamitic strain (Sabatini, 1936, pp. 253-269; Biasutti, 1933). The former reference gives the N.I. as 78.1, which is mesorrhine, and the type photographs indicate variation of Negro features; some individuals are more pronouncedly Negroid than others. The stature for 126 male Tibbu was 1665 mm. and the C.I. 76.1, but these traits are not distinctive since they can be matched by group averages found among Negroes, Hamites, and Semites.

Leblanc (1934) measured thirty-one males of Zenata near Insalah, and these he considered in two divisions, the Ouled Souka who describe themselves as Tuareg, and the Ouled Dihamou who are of Moroccan origin. The Arabs hold these people in contempt, saying that they are half-breeds. Leblanc notes great variability in height, cranial index, and nasal index, which is often an indication of miscegenation. The nasal index is often highly mesorrhine—from 70 to 80—so bordering on the typical platyrrhine index of the Negro.

When dealing with the more recent historical aspects of migration and miscegenation, anthropometry is sometimes aided by study of oral tradition. C. G. and B. Z. Seligman (1918, pp. 106-112) and MacMichael (1912) have given detailed histories of the Kababish of Kordofan. Seligman (p. 107) says the "Kababish are a congeries of divisions of various Arab tribes with a minority of Hamitic origin and a dash of Negro blood." The richest divisions, who possess most slaves, tend to show the highest proportion of individuals with Negro or Negroid features. Struck (1920-21) has analyzed the population of Kordofan from the anthropometric and linguistic point of view. He considers Hamitoid, Negroid, and Bantoid groups, for which he gives statures, cranial indices, and nasal indices. His summary of results (p. 168) indicates a correlation of linguistic elements and somatic traits.

H. R. Palmer (1932, 1934) has studied historical data relating to the Tuareg, and in addition to weighing the evidence of oral tradition, vocabulary, and cultural traits, he has made use of Arabic documents from the ninth century of our era onward. The Tuareg, a

typical camel-culture people, were probably not present in the north Sahara in appreciable numbers before the time when camels became numerous (A.D. 193-364). Not until the ninth century is clear information available to prove the presence of the Tuareg in the Fezzan. In Palmer's opinion (1932, p. 308) there is a probability that the "Tuareg, and their T'ifinagh alphabet, first came into the northern Sahara bringing camels with them from the eastern Sudan between the years 300 and 600 of our era." Historical research, no matter what the nature of the testimony may be, usually serves to whet the appetite; inquiries are pushed farther and farther, but always toward a horizon that fades into the distance as the explorer proceeds.

In conclusion of the section dealing with extant types, their wanderings and mixtures, attention should be called to the historical notes that are to be found in almost every tribal monograph. A great task of compilation awaits a student who will make a comparative study of these references with a view to testing their accuracy one against another and finally synthesizing them into a more complete picture.

V. CONGENITAL ANOMALIES, DEFORMATION, ORNAMENTS, AND CLOTHING

ABNORMALITIES

Congenital anomalies of Negroes and other Africans have not formed the subject of a comprehensive work, and data are insufficient for wide study of family inheritance of abnormalities. Yet numerous articles call attention to some common pathological conditions.

One of the commonest aberrancies among Negroes is albinism, which is of interest in both its physiological and social aspects. An article by H. Stannus (1913), medical officer in Nyasaland, calls attention to the different forms of albinism occurring in that territory. Stannus quotes a classification of albinos offered by K. Pearson, and mentions the divisions as complete albinotic (Fig. 49, *a*), spotted albinotic condition, blue-eyed and white-skinned, yellow-eyed and white-skinned, xanthous (yellow), and piebald (Fig. 49, *b*). With this classification Stannus is not in full agreement. He thinks that the pink-eyed condition if present at all is rare, and that observers who have seen the general albinotic condition have assumed the pinkish condition of the eye, since this occurs in European albinos. Categories of albinos given by Stannus differ somewhat from those suggested by Pearson. The incidence of albinism among Negro males and females respectively would be of interest to biologists, but I am not aware that any data have been published on the subject.

Albinos have been of interest to ethnologists, and though evidence respecting the social status of these abnormal persons has not yet been fully collated, a few references indicate the trends of tribal reaction.

A trader in the year 1860 states that at Onitsha in Nigeria two belligerent chiefs who were about to arrange terms of peace purchased an albino who sat between the chiefs while they were discussing the terms of the treaty. Laying their hands on the albino the former combatants solemnly declared that if ever they fought again it should be as allies. Each agreed that if he broke the pledge his family should be sold into slavery. An executioner struck off the albino's head while the two peacemakers held the body (Cole, 1862, p. 14).

According to J. Weeks (1914, p. 238) the Bakongo require the presence of an albino or some hair from one before they are able to form a new branch of a powerful secret society known as *ndembo*.

Father van Wing (1921, p. 159) speaks of an albino being regarded as the reincarnation of a chief. C. K. Meek (1931b, vol. 1, p. 143) states that among the Bura of Bornu Province several albinos were observed, and he discovered that they are regarded with disfavor, are refused the tribal marks, and that no girl will marry one. I was informed by Vachokwe people of east Angola that an albino found difficulty in obtaining a spouse.

J. Weeks (1913, p. 325) notes a similar matrimonial disability among the Bangala. R. Burton (1860, vol. 1, p. 9) reports the occurrence of many albinos among the Wazaramo, and he states that no prejudice is directed against them. The few instances of albinism here considered indicate three possible social attitudes. The condition may be disregarded within the tribe, or the albinos may be sacred in the sense of something set apart because it is unusual and unexplained, and yet again the condition may be regarded as a definite cause for social disabilities.

In a survey of abnormalities present at birth among several tribes of Nyasaland, H. Stannus (1914) has pointed out that observations of this kind do not give a correct estimate of the frequency of congenital disabilities, since defective children are destroyed at birth. Stannus thinks that a child with a harelip would undoubtedly be killed, and in general the more pronounced the abnormality the less the chance of survival. Contacts of Africans with Europeans either at mission stations or in government service tend to counteract infanticide; therefore with the further extension of European influence observers may obtain a more accurate impression of the frequency of abnormalities.

Infantilism was observed in a woman of twenty-two years, who had no breast development, no body hair, and had not menstruated. Dwarfism (Fig. 53, *b*) with normal mental ability was recorded, but no acromegaly (giantism) was noted. Examples of undeveloped zygomatic arches and a rudimentary lower jaw were photographed. The subject was an imbecile with impaired speech. H. Stannus observed a mongol idiot and two microcephalic (small-headed) idiots. Cysts of the face occur. Abnormal ears were seen. Supernumerary nipples were observed.

Reduplication of teeth, humeral micromely (short upper arm), and malformations of hands and feet were noted and photographed. The records include the presence of supernumerary fingers and toes, and the joining of digits (polydactyly and syndactyly).



a



b

FIG. 49. Albinos. a. Albino woman, Vachokwe, Cangamba, Angola. b. Partial albino, Akikuyu tribe, Kenya.

More properly within the scope of ethnology is the subject of artificial deformations. Perhaps the words "artificial modifications of the body" would be preferable, since the changes are not considered as deformations but as embellishments by those who make them. The reasons for these artificial modifications are the gratification of esthetic taste; the preservation of tribal and social distinctions; the marking of differences of age and sex; designation of membership in a secret society; and desire to comply with certain religious and magical observances.

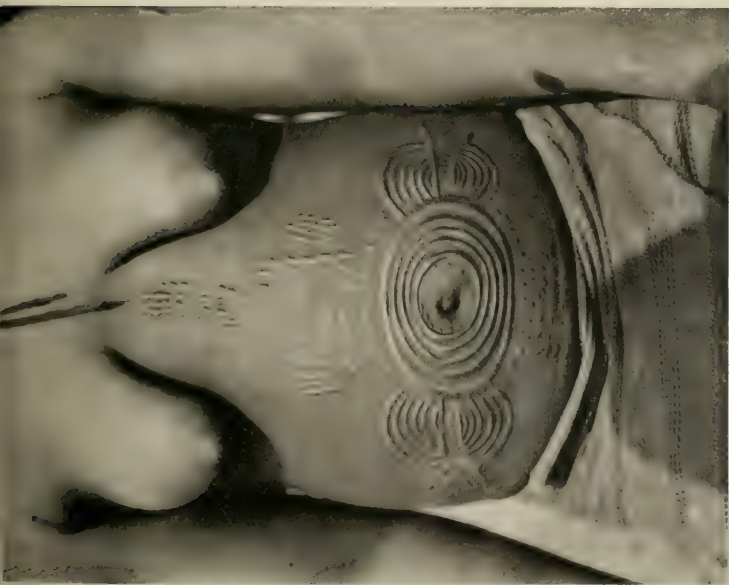
Artificial modifications are carried out on the skin by several methods; namely, scarification, painting, and tattooing. The teeth, the lips, the ears, the nose, the head, body and sex organs, and the hair are subject to treatment. Often the changes are of an elaborate kind and specialists are employed to perform the operations.

CORPORAL MARKS

As a general introduction to the subject of body marking, Hambly (1925) should be consulted. The flesh of Negroes has a natural tendency to form large keloids or cicatrices after injury, and advantage has been taken of this fact to form elaborate geometrical patterns by making symmetrical cuts, the healing of which is sometimes retarded by rubbing earth into the wounds. This mutilation of the skin may be merely ornamental, but usually the patterns have a tribal significance. Some idea of the great variety of distinctive patterns for tribes is given by Tremearne (1911), who describes scarification among Nigerian people, and by C. H. Armitage (1924), in his account of this form of decoration in the Northern Territories of the Gold Coast.

According to S. Passarge (1907, p. 27) some Bushmen have a magical use for scarification. Into cuts made on the body a little flesh from an antelope is introduced; this procedure gives the speed of the antelope to the Bushman.

Scarification in the Munshi tribe of southern Nigeria provides an example of variation of marking with sex. Women adopt an elaborate abdominal scarification (Fig. 50, *a*), but men have simple tribal marks consisting of a few round keloids on the cheeks. A sex difference in marking is observable among the Ovimbundu of Angola. Men are not much scarified, but women mark their cheeks with small circles into which burnt rubber is introduced, so that after healing the mark has a blue tinge. Degree of scarification among Negroes varies from complete absence to the cutting of designs



a



b

FIG. 50. Scarification. *a*. Munshi woman, Katsina Ala. *b*. Angas man, near Pankshin, Nigeria.

that cover the entire face and torso. Some of the most severe scarification is to be found among the tribes of the central Congo region. In Sierra Leone examples of body scars denoting membership of a secret society have been recorded. These instances are typical of the principal functions of scarification, and further collation of examples could be carried out almost indefinitely, so numerous are the Negro tribes who mutilate the skin in this way. Body marking of this kind may be the result of therapeutic treatment; for example, the Vasele of Angola scar the chest to cure a cough. Making of keloids may be part of the rites of initiation into the tribe, yet on the contrary the scars may be made during infancy and for ornament only (Decorse, 1905b; Germann, 1933, p. 20; Buisson, 1934).

Tattooing by making punctures into which indigo dye is rubbed is characteristic of light-skinned Egyptians, and Berber tribes of Algeria, Tunisia, and Morocco. The practice has spread into Nigeria, and some tattooed persons may be seen in Kano. Body marking is forbidden by the Koran, but this injunction is disregarded by Mohammedans provided the operation is not performed during Ramadan.

In the larger towns of north Africa, tattoo marks may be signs of prostitution. The designs may be merely decorative, or again they may have a magical import. Certain designs represent the lucky hand of Fatima, daughter of the Prophet, and other marks are supposed to preserve the eyesight. Certain symbols tattooed on the face or body are said to be a protection against snake-bite, or to give health to the lungs (Roth, 1905). Other important references to tattooing in north Africa are Lacassagne (1912, 1934, 1935), Gobert (1924), Van Gennep (1912), Gaudry (1929, pp. 43-46), Karutz (1909), Bertholon and Chantre (1912, pp. 478-493), and Herber (1923), who emphasizes the magical-religious significance of tattooing.

Painting the body with colored earths is one of the most common forms of decoration, and the usage is widespread among Negro tribes in connection with initiation ceremonies and secret societies. Painting the face or body may have a therapeutic value; for instance, women of the Ovimbundu have their faces decorated with small white and red marks which are made by a medicine-woman during their pregnancy. Unguents for the hair and body are freely used by many tribes. Palm oil is a usual dressing for the skin and hair, while camwood powder is a reddish and aromatic dressing for the skin. In the south of Angola the Vakwanyama make powder from

*a**b*

FIG. 51. Dental mutilation. *a*. Esele man, Angola. *b*. Sara man, Lake Chad.

red *takula* wood; this dust is then freely rubbed into the greasy hides which are used as skirts for women. Kohl, a kind of antimony, was used for decorating the eyelids in Egypt in ancient times. This practice has spread over north Africa together with the custom of staining the finger nails with henna, and both embellishments have been adopted to some extent by the more advanced tribes of west Africa.

MUTILATION OF TEETH, LIPS, NOSE, EARS

Mutilation of the teeth is common among Negro tribes and the styles are usually indicative of tribal divisions. In Angola Ovimbundu males remove a small V-shaped piece from between the two upper central incisors. The Babunda remove an oval piece from the same position. The Vasele chip all their teeth to points (Fig. 51, *a*). Numerous illustrations of different methods of mutilating the teeth in the southwest Congo region are given by F. Starr (1909, pp. 115-124). Instances of extraction of the two middle incisors of the lower jaw are given by A. C. Hollis (1905, p. 313). Fig. 51, *b* shows deformation of teeth of a Sara man near Lake Chad, and Fig. 52, *a* portrays an M'Bunda woman of Angola.

Geographical distribution of the practice of boring the lips of female children during infancy, gradual enlargement of the holes by insertion of wooden plugs, and final introduction of a large disk, has been described and mapped by K. G. Lindblom (1925), while Muraz and Getzowa have also contributed to this subject (1923) in describing the extreme deformation of lips of females of the Sara tribe near Lake Chad. Extreme deformation of the ear lobes is practiced by the Masai, the Akikuyu (Fig. 54, *a*) and the Wandorobo of northeast Africa. Wearing of a small disk which is inserted in the side of the nose is not uncommon in Egypt and north Africa. Women of the Shuwa Arabs use this kind of decoration. Women of the Vasele tribe, Angola, used to pass a thin stick through the septum of the nose, but this custom is falling into desuetude (Fig. 52, *b*).

SKULL DEFORMATION

The subject of artificial cranial deformation in all parts of the world has been discussed by Dingwall (1931) who is not satisfied that this custom was practiced in ancient Egypt. Today in Africa the practice is unusual, though not unknown. The Mangbetu of the northeast Congo region (Fig. 54, *b*) and the adjacent Madi bind the heads of infants to make their skulls slope backward. This is a custom among the socially superior, who also show their rank by



a



b

FIG. 52. Personal ornament. *a*. M'Bunda woman, teeth mutilated, Cangamba, Angola. *b*. Esele woman wearing nose-pin, Angola.



a



b

FIG. 53. Negrillo and dwarf. a. Batwa, cross between Negro and Pygmy, Kasai, Congo, a somatic type.
b. Dwarf, Kano, Nigeria, congenital malformation.



a



b

FIG. 54. Personal ornament. *a*. Distension of ear lobes, Kikuyu boy, Kenya. *b*. Cranial deformation and tooth mutilation, woman Ruwenzori (from photograph by E. Heller).

allowing their finger nails to grow to great length. This treatment of nails is a peculiarity of the Mangbetu; I have no other African instances of the practice. P. A. Talbot (1912, p. 38) states that among the Ekoi of southeast Nigeria members of a certain secret society may be recognized by their bulging foreheads, which have resulted from cranial pressure applied during infancy. Bertholon and Chantre (1912, p. 89) have described three modern types of cranial deformation in north Africa.

SURGICAL OPERATIONS

Operations on the sex organs of boys and girls are not uncommon; especially are the mutilations carried out during initiation rites. The nature of these operations and some historical aspects of the rites will be discussed later. Lopping the finger joints is an African custom whose distribution has been discussed by Lagercrantz (1936, pp. 129-157); the rite prevailed among Bushmen and Hottentots. The former were in the habit of removing a joint from the little finger of boys and girls for the alleged purpose of protecting them, if previous children had died when young. Mutilation of the fingers was common among the Hottentots, but the statement that a woman was obliged to sever a finger joint before each marriage is not fully confirmed. The evidence for these mutilations among the Khoisan peoples has been discussed by I. Schapera (1930a, pp. 71-72).

The practice of emasculation will be mentioned later in connection with slavery and punishment for adultery with the wife of a king. The practice has been both commercial and punitive. P. Kolbe, who was in contact with the Hottentots in the year 1719, refers to the excision of a left testicle during boyhood. Kolbe reported that Hottentot women were afraid that they would bear twins, but this, they believed, would be impossible if males were mutilated in this way. Some writers state that Hottentots believed that the operation increased swiftness in running. The evidence is not, however, sufficiently clear to establish the rites as a certainty (Schapera, 1930a, pp. 71-72).

TREATMENT OF THE HAIR

Depilation is a mutilation resulting in complete or partial removal of eyebrows, eyelashes, and body hair. Women of the Bakongo tribe remove their eyelashes. Females of the Masai, Dinka, Bari, and Latuka shave their heads and eyebrows. When a male of the Masai tribe dies, his warrior sons shave their heads. The head of a Masai woman is shaved when her child has cut four teeth. Women



FIG. 55. Berg Damara woman, with Herero headdress, South West Africa (from photograph by Arthur S. Vernay, copyright).



a



b

FIG. 56. Unclothed types. a. Luvando girls, southwest Angola. b. Angas women wearing leaves, near Pankshin, Nigeria.



a



b

FIG. 57. Personal ornament. *a*. Bolewa girl, Potiskum, Nigeria. *b*. Shuwa Arab girl, Maiduguri, Nigeria.

of the Suk and the Turkana tribes shave their heads, but men of those tribes build their hair into large chignons with the aid of grease, clay, and cow dung. At death this mass is cut from the head and divided among the sons of the deceased, who add it to their own chignons after washing and cleaning it. The bag of felted hair is used for holding a fire-stick, snuff, trinkets, and other small possessions. The chignon is ornamented with ostrich feathers, which are dyed yellow or red (Beech, 1911, pp. 13-14).

Many remarkable patterns of hairdressing are shown by P. A. Talbot (1912, pp. 318, 319). Ekoi women shave their heads; then they allow the hair to grow to a uniform length of a quarter of an inch. Patterns are marked on the hair with white chalk, and these tufts are left on the shaven scalp. In the south of Angola several adjacent tribes, the Luvando, Vanhaneca, Gambos, and others, are readily distinguishable by their styles of coiffure. In the Bapedi tribe a widow shaves her head completely after the death of her husband. A woman shaves her head to some extent to observe the death of any relative, and the size of the shorn area corresponds with her degree of relationship to the deceased (Duggan-Cronin, Eiselen, vol. 2, Plate 52).

CLOTHING

There still exist in Africa several tribes who have no clothing. Males of the Nuer tribe are quite naked and their bodies are smeared with cow dung and ashes. On the Bauchi plateau of eastern Nigeria males of several tribes wear only a penis sheath of plaited fiber. In the Angas tribe of that region women are naked until they marry, after that a bunch of leaves is worn (Fig. 56, *b*).

In contrast with this nudity, clothing may be elaborately made from cotton woven by both men and women (Figs. 58-60). Many tribes from Sierra Leone to Nigeria are skilled in weaving their own cotton clothing and in making indigo and other dyes. Leather or hide clothing may be a simple pubic covering, as among Bushmen (Fig. 44); or hides may be soaked, trampled, pleated, and dressed with grease and red ocher, as among the cattle-keeping Vakwanyama (Fig. 66, *a*). Some Zulu tribes make elaborate fur cloaks called *karosses* by sewing together the pelts of hyrax and other fur-bearing creatures. Barkcloth is well made in Ashanti, west Africa, and among the Baganda of northeast Africa. Formerly this covering was widely used among Negro tribes, but the use is waning with importation of foreign cotton. Weaving of skirts from raffia bast attains a high degree of excellence among the Bushongo of the



FIG. 58. Fulani clothing and ornament, near Shendam, Nigeria.

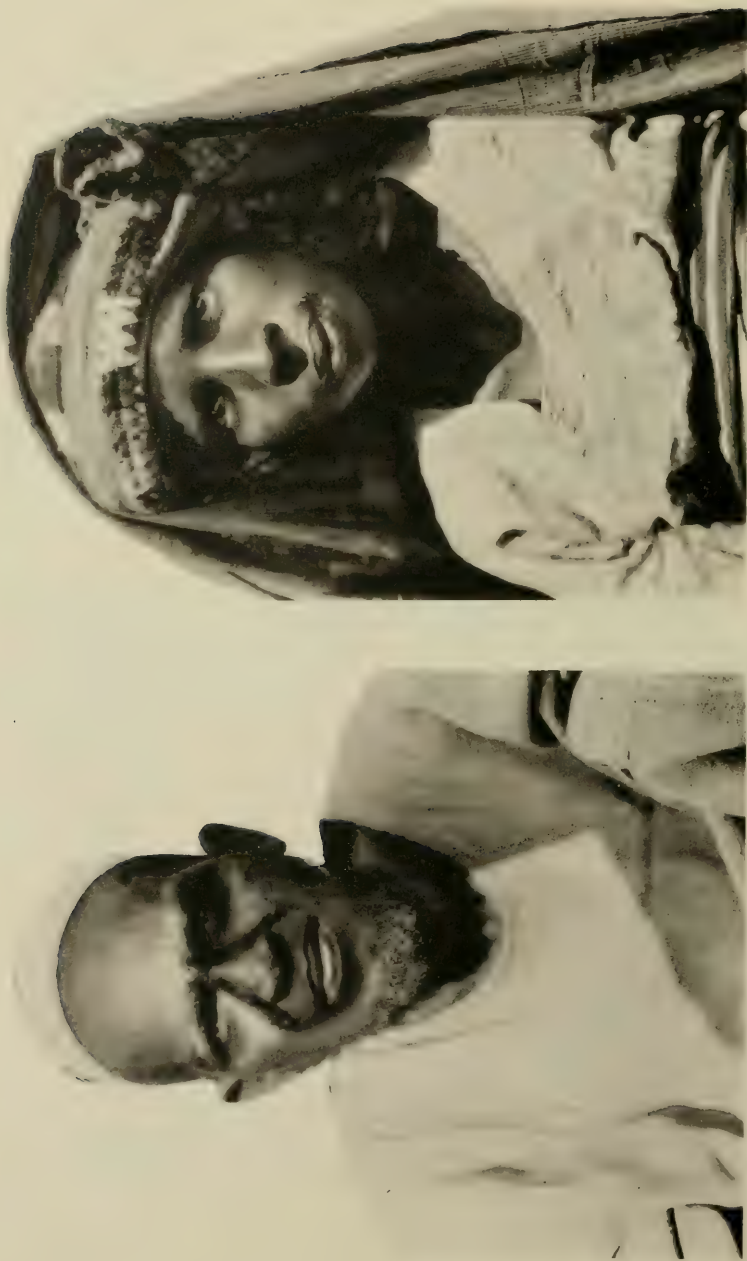


FIG. 59. Hausa types, male and female, of Kano, Nigeria.



a



b

FIG. 60. West African clothing. a. Yoruba children, Ibadan, Nigeria. b. Fulani chiefs, near Shendam, Nigeria.

southwest Congo region, and raffia weaving is usual wherever the raffia palm is found (Fig. 108, *b*). Descriptions of the technique concerned in the manufacture of clothing are given later in connection with handicrafts. Reference to the work of A. Jünger (1926), who has mapped the distribution of all kinds of clothing worn in Africa, will give a comprehensive survey of the subject and so prepare the way for more detailed study in section III, under the heading "Economic Life."

ORNAMENTS AND CHARMS

Personal ornaments of ivory, shell, or metal may be more than mere decorations. For example, among the Vakwanyama and some of the tribes of Huila, southwest Angola, disks of shell called *omba* are highly valued as heirlooms which are passed from mother to daughter. Such shells are sometimes worn by men (Fig. 66, *b*). The new disks may be purchased for a small sum, but no offer will tempt the owner to part with disks that have become a family possession.

At the present time supplies of ivory are insufficient for personal ornaments, but a few years ago massive anklets and bracelets were worn. The most cumbersome ornaments are worn by women, who, as among the lower Congo tribes, wear heavy brass collars, some examples of which weigh twenty-eight pounds. Women of the Masai, Akikuyu, and other tribes of northeast Africa wear heavy coils of wire round their legs and arms. Similar ornaments are used by women of the Munshi tribe, Nigeria, and by females of the Luvando and other tribes of southwest Angola. Stone armlets are still made and worn by the Tuareg (Rodd, 1926, pp. 91, 285) and by some west African tribes (Cardinall, 1923).

Charms for attaching to the neck, arms, or clothing are numerous. In regions north of the equator, where Mohammedanism has affected magical beliefs, *mallams* may be seen writing texts from the Koran. These are wrapped in small satchels of leather and are attached to the clothing, or they may be worn in groups about the neck or on the upper arm. Small charms for averting the evil eye and for avoiding snake-bite are commonly seen. The most widely used charms in Negro territory are small horns which a medicine-man fills with a concoction of fat, charcoal, pounded human bone, and other ingredients. Charms specially designed to give fertility, to ward off sickness, and to avoid the curse of witches are numerous. Westermarck (1933, pp. 25-58) has supplied a valuable contribution to the study of charms and magic in north Africa, and much of the informa-

tion applies widely to any part of the continent where Mohammedan influence has penetrated.

No item of ornament, deformation, or dress is too insignificant to receive attention, for behind some of the most simple customs and objects lie beliefs of great ethnological interest. The tolerant and intelligent attitude which should be preserved by an ethnologist is well expressed by Mungo Park, who wrote (1799, p. 56), "They rallied me with a good deal of gaiety on different subjects, particularly on the whiteness of my skin and the prominence of my nose. They insisted that both were artificial. The first, they said, was produced when I was an infant by dipping me in milk, and they insisted that my nose had been pinched every day until it had acquired its present unsightly and unnatural conformation. On my part, without disputing my own deformity, I paid them many compliments on African beauty. I praised the glossy jet of their skins and the lovely depression of their noses."

VI. PSYCHOLOGY

The word psychology is used here to mean a study of mentality, and therefore has a wide connotation which includes every aspect of mental activity. The study is consequently concerned with individual and collective traits, achievement, educability, emotions, and the general psychic background of beliefs and practices. Research of this kind is still tentative, and opinions of specialists are divided with regard to technique and the explanation of results that are obtained.

The following outline summarizes the chief methods of approach to an understanding of mental activity and the various ways in which psychological processes are expressed by beliefs, institutions, and ritual.

- I. Physiological theories. These relate to race, size of brain, and the functioning of endocrine glands.
- II. The ethnological approach.
 1. General observations on conduct.
 2. Study of achievement and history.
 3. Recording of ethnological facts by:
 - (a) A monograph on a tribe.
 - (b) A functional study stressing particular traits.
 - (c) An ethnological story.
- III. A psychological method which is intended to give an explanatory background to the facts observed.
 1. Broad philosophical treatment of sociological facts derived from a study of the beliefs and practices of primitive man.
 2. Psychological study of children.
 3. Examination of the unconscious mind.
 4. Intelligence tests.
 5. Dreams, songs, and folklore.

INTELLIGENCE AND RACE

A popular belief that intelligence is a fixed concomitant of race is probably fallacious. Professor R. H. Lowie (1923) says, "As to the existence of superior races I am an agnostic open to conviction. All evolutionists admit that at some point an organic change of fundamental significance occurred. It is conceivable that the Bushman and Negrito, Pygmies and Negroes, are organically below the

remainder of living human types, and that differences of one sort or another divide even more closely related stocks. But between what is conceivable and what is definitely established there yawns a chasm; and where the scientist has no proof he holds no dogmas, though dispassionately he may frame tentative hypotheses."

Lowie discusses the difference between average intellectual capacity and variability of mental capacity in a race. Two races, or other biological groups, might coincide in their average mentality but differ in range, so that one group might produce far more remarkable individuals in both positive and negative directions. If this could be established, we could account for differences in cultural achievement without assuming that the average level of intelligence varies in different cultures. Dr. F. Boas (1911, 1928) has written a similar protest against the assumption that a certain mental potentiality is an innate accompaniment of the bodily features that are said to constitute a race. See also T. R. Garth (1931).

PHYSIOLOGICAL THEORIES

The hypothesis that big brains imply great intellectual possibilities, and that small brains indicate impossibility of achievement, has to be abandoned. Weight of brain and cubic contents of the skull are closely correlated with height and weight of body, since a large part of the brain is concerned with directing motor activities. Moreover, there is little or no correlation between cranial capacity and examination marks. Reid and Mulligan (1923), Garth (1931), Willey and Herskovits (1927), Klineberg (1930), Aldrich (1931) and Fick (1929), have all contributed to the discussion of theories of racial mental endowment and alleged racial differences in mental capacity.

Certain observations recently carried out on 3,444 male subjects in Kenya have a bearing on the subject of cranial capacity and intelligence. The average cranial capacity was found to be 1316 cc., which is low compared with the cubic capacity of European crania (1481 cc.). During the period ten to twenty years of age, the average yearly increase of cranial capacity for Kenya natives is 8.5 cc. and for Europeans 17.7 cc., which is more than twice as great. After puberty, the brains of Europeans increase in size and weight, but the brains of Kenya natives grow scarcely at all (Nissen, 1935; Fick, 1929).

Dr. H. L. Gordon (1934) who has worked in the laboratory of Dr. F. W. Vint, pathologist to the Kenya Government, states that brains of 100 normal, adult male natives of Kenya weighed on the

average 150 grams less than the European average. Dr. Vint's research has shown that the cortex or gray matter of Kenya natives' brains displayed a 15 per cent quantitative deficiency when compared with the European cortex. The cortex cells of Kenya brains were smaller, not so well formed, and not so well arranged as those of Europeans. The Kenya cortex is notable for the large predominance of undifferentiated cells.

Anthropologists have little definite evidence of this kind on which to build their theories, and even research of this nature does not touch the fundamental problem. Brains may be small and the cells may be undifferentiated when compared with European examples, but what anatomical differences would take place in a few generations of stimulating environment, if the mental outlook and all kinds of intellectual contacts were fostered? No one is able to say what improvement might take place in the size and efficiency of the central nervous system as a result of changed environmental conditions.

The functioning of ductless glands and the addition of hormones to the blood stream is to some extent understood in relation to normal growth and the development of sex characters. A pathological study of the results of excessive or subnormal secretions from the glands is in progress, and many facts have been accumulated. The feasible suggestion that the activities of ductless glands determine temperament and mental characteristics in individuals and in biological groups has been advanced. But at present such speculations are largely theoretical. A biological study carried out by anatomical and physiological observations at present gives no satisfactory explanation of mental differences. Other methods of approach through the data of sociology, ethnology, and psychology remain to be tried.

SOCIOLOGICAL TESTS OF MENTALITY

Sociologists, stimulated by Herbert Spencer, have attempted comparative study of racial and tribal mentality by collating the opinions of travelers, traders, and missionaries. This method is entirely unsatisfactory for several reasons. According to personal impressions, which were often based on brief acquaintance and a misunderstanding of primitive customs, a tribe might be described as hospitable, cunning, ferocious, licentious, cruel, or stupid. Sacrifice of human victims is not the result of a lust for blood, but rather a logical concomitant of religious beliefs. The victims themselves regarded the rites as necessary ceremonies for transferring their

services from a ruler in the flesh to one in the spirit. Zulu and Masai warriors, though ruthless in warfare, were not an innately cruel people; they were the inevitable product of a certain military system. Many tribes have been misjudged on the grounds of infanticide, the poison ordeal, or the practice of ceremonial cannibalism, while certain customs such as polygyny and the lending of wives have led to an assumption of promiscuity. This kind of sampling cannot give any dependable data.

Another fallacious method of assessing mentality and intelligence is the comparative study of achievement in industries, social organization, and religion. At one time sociologists spoke of races and tribes as being high or low in the scale of humanity, and the judgment was passed after consideration of the arts and handicrafts. Therefore, according to this criterion, Bushman and Pygmy hunters were low because they have no knowledge of working in metals. Under this arbitrary system of classifying people as savage, barbaric, or civilized according to their knowledge of iron-working or making pottery, certain confused social categories were established. These were artificial divisions without any basis in reality. Different environments have afforded different opportunities, and successful adaptation to conditions is a more valid test than consideration of absolute attainment.

INTELLIGENCE TESTS

This desire to compare and place in categories according to some quantitative standard finds recent expression in the invention of intelligence tests. These investigations are supposed to assess inborn intelligence, apart from the mental condition that is a result of environmental factors. The results of the tests are expressed in arithmetical form as scores which enable comparisons to be made with precision. Thus Negroes have a certain intelligence quotient, and this can be compared with the quotient for other biological groups (Garth, 1931).

In addition to objections of a technical kind relating to the test questions and the nature of the performance required, the erratic nature of living subjects is a further argument against the validity of the tests. The investigators are dependent on capricious, nervous, or perhaps apathetic beings on whose good will and concentration the results depend.

When a psychologist asserts that his tests show that Negroes are inferior in intelligence to white men, and that this is true for groups of all ages in the two populations, opponents of the tests point out

that differences in social background must necessarily invalidate the results of all experiments that are designed to discover racial differences in intelligence.

Moreover, argument against the validity of the tests as criteria of innate intelligence is pursued by showing that, despite the supposed low intelligence of the average Negro, great achievements have been made even by full-blooded African Negroes who have qualified in law, medicine, music, and literature. Born in bush villages, and educated at small mission schools, they have finally graduated in European or American universities, and have proved themselves equal to white competitors. All tests of a quantitative kind, both physiological and psychological, fail to prove an innate mental grading of races and tribes according to intelligence, and so far as Africa is concerned we have little experimental knowledge to show the changes in average attainment which may be expected to follow an improved social and physical environment.

Psychological tests of intelligence have been made at the Jeanes School, Kabete, Kenya. But the investigator, R. A. C. Oliver (1933, 1934), does not feel sure that these tests are valid for comparative study of various east African tribes. Still greater is the uncertainty that such tests would be valid for comparing the intelligence of tribes whose social backgrounds and general cultures show great disparity. The average intelligence of the Kenya pupils was 85 per cent of that of European children, but 14 per cent of the natives equaled or surpassed the average for Europeans.

A student who does not demand quantitative measurements will find helpful psychological studies in Earthy (1933), Frähsle (1922, 1923), Dougall (1932), and Herskovits (1935). Rémondet (1935) has made a valuable short study of child psychology among west African Negroes, and Sidibé (1932) has analyzed the gaiety of African Negroes.

THE MONOGRAPH AND THE STORY

Anthropologists who are concerned with a qualitative study rather than quantitative measurement have several practical methods for investigating the mental life of a tribe. A well-prepared monograph gives an account of the social, religious, and economic life, all of which aspects are shown in their mutual dependence. The objection that such a method is too static, and that the divisions are too formal, is invalid provided the investigator stresses the interrelation of the various factors of tribal life. A functional study may select some salient factor of communal life, for example, sexual

relationships, or the quest for food, with a view to showing that various traits cluster round certain pivotal factors (A. I. Richards, 1932). This method is effective, though the inquiry is liable to create misconceptions, for social life is usually a complicated assemblage of traits whose mutual dependence is so complete that the choice of some one pivotal trait or institution is misleading.

Within recent years several ethnological stories have made a successful presentation of the inner working, that is, the psychology of African tribal life. The essential qualifications for writing ethnological stories are close personal acquaintance with the people described, and genuine sympathy and understanding of their points of view.

In Donald Frazer's "The Autobiography of an African" (1925), a study of Bantu psychology and behavior is achieved by a description of the life history of Mtusu, who abandoned his native faith and culture in favor of Christian environment. Here is an account of the effect of two conflicting cultures on the mind of an individual, whose mental disharmonies and attempts at adjustment are effectively described.

A practical approach to a social and psychological study of Zulu life is to be found in "Chaka, an Historical Romance," by T. Mofolo (1931), an educated Mosuto, who wrote an account of his life in Sesuto, the language of his people. The narrative gives a clear insight into the reactions of an individual toward his own institutions, so that a reader without any technical knowledge of ethnology or psychology is made to understand the functioning of religion, social obligations, and economic conditions, which unite to form a social pattern. J. H. Driberg's (1930) account of the Dindinga, and Ntara's "Man of Africa" (1935) attempt a realistic portrayal of the psychology of tribal life by descriptions of events and persons, together with the use of direct speech in the form of dialogue. In the same category of books is Rattray's (1935) "The Leopard Priestess." Perham (1936) has made a psychological study by analyzing the reactions of ten Africans to European influence. In French, Torday's "Causeries Congolaises" and R. Maran's stories are excellent.

Since the Negro mind expresses itself in speech and action the mentality cannot remain totally inscrutable, so states B. Huss (1931), yet a fallacy may enter into this apparent truism. Thought, language, and actions are closely related in their development, and so intimate are they that an attempt to translate into the English language may give rise to many conceptions which were never a

part of the indigenous philosophy. In studying African religions, for example, English terms often fail to express the African connotations. Moreover, although the actions of persons and groups may be carefully studied, European interpretation of the motives behind the acts and institutions is likely to give rise to doubtful hypotheses. Europeans have been resourceful and ingenious in their explanations of indigenous African beliefs and ceremonies, but speculative philosophy is hazardous.

J. A. Winter (1914) makes a practical approach to the study of native African mentality by considering trials in law courts according to the processes of Bantu law. He also deals with division of labor between the sexes, the effect of satirical songs, and the functioning of a polygynous system. R. E. Dennett's "At the Back of the Black Man's Mind" (1906) is not a profound psychological study, but an approach to interpretation of Negro concepts by a detailed description of rites and beliefs connected with the use of ceremonial objects, sacred groves, and magical practices. An explanation of a philosophical kind, which involves analysis and generalization, is given by Dennett in relation to certain religious concepts, but, generally speaking, a reader is left to draw his own interpretations from the factual material. A very practical psychological study has been made by D. Crawford (1912), whose book, "Thinking Black," was written after twenty-two years of continuous experience in central Africa. W. M. Wundt (1916) is both practical and speculative. He considers numerous rites, beliefs, and material traits with a view to explaining origins and developments from the simple to the complex.

In their practical analysis of the thought processes that underlie indigenous beliefs and the outward expression of these, B. Gutmann (1911) and P. Radin (1927) have examined folklore, songs, poetry, and proverbs. The former wrote of the Dschagga tribe of Kilimanjaro, while the latter selected a broader basis for study, which included linguistic evidences of thought processes among North American Indians and the Maori of New Zealand.

COLLECTIVE MENTALITY

The psychological technique of Lévy-Bruhl (1922, 1927, 1931) is a method of investigation founded upon broad geographical and ethnological studies. In fact, the philosophy is concerned with primitive man in general and is not confined even to one race or continent. On the practical side consideration is given to primitive man's attitude toward birth, sickness, accident, death, dreams,

omens, divination, ordeals, and the invention of myths as a rational explanation of natural phenomena.

The researches of Lévy-Bruhl assert that the mental reactions of primitive man, when considered broadly, give evidence of the operation of certain laws. For example, the Law of Participation, when operating, assumes a connection between two occurrences or conditions. These two factors, traits, or events, are regarded as cause and effect without there being any demonstrable connection between them. Linkage is of a magical kind due to the operation of forces and powers that cannot be understood, though they may be controlled to some extent by suitable ritual. Dr. R. R. Marett's (1907, 1911, 1935) consideration of the nature of taboos and the psychological content of religious experience are a part of the broad philosophical approach to social and psychological studies.

E. Durkheim (1912) has sought a general philosophy which shall explain certain psychological and social phenomena, such as social cohesion, and man's attitude toward forces of nature that control his life. Durkheim has made generalizations respecting the psyche of a social unit. Individual ideas and the mentalities of persons are united to form a psychic whole. This mental entity is a social force, a superorganic, which is strong enough to secure social cohesion and to dominate the lives of all the individuals who constitute a social group, such as the village unit or the tribe.

THE UNCONSCIOUS MIND

A recent trend in psychological investigation has been the application of methods, which were primarily therapeutic and concerned with the content of the unconscious mind, to the explanation of ethnological data. C. G. Seligman (1924, 1928) and B. Z. Seligman (1934), with acknowledgments of the initial work of Jung and William James, have called attention to the existence of introvert and extravert types of mind in normal individuals. Moreover, one of these mental types may be characteristic of a tribe or a still broader ethnic division. The Dinka look inward, and they are absorbed in their own cultural interests, to the exclusion of ideas resulting from contact with foreigners. On the contrary, many Negro tribes are receptive because of their extravert disposition, which, as the name implies, enables them to look outward and to be receptive of new ideas and traits. But, even though such a classification may be explanatory of certain attitudes, one cannot be sure whether an innate type of mind has made the social environment, or whether the mentality is merely a product of physical environment and historical events.

Undoubtedly, these external factors must have a potent effect in shaping mass mentality and social attitudes.

The researches of E. Jones (1924) emphasize the similarity of data resulting from investigations of anthropologists and psychoanalysts. In exploring the unconscious mind, over which the conscious mind acts as a censor, groups of ideas, implicit beliefs, and attitudes, represent a stratum of mind which is more archaic than the one which usually manifests itself through normal behavior. S. Freud (1918) has shown that mental processes go on without the conscious self having any idea of their existence. Research in folklore and mythology explores this unconscious mind with a view to showing stages in early mental development. The conscious thinking of primitive man is said to be more extensively influenced by unconscious factors than are the mental processes of sophisticated people.

Psychoanalysis of the unconscious mind has led to the formation of hypotheses which help to explain certain sexual avoidances, religious concepts, methods of interpreting dreams, and the use of sexual symbolism by primitive people. Psychoanalysis has shown that in the minds of young children there exists a tendency toward sexual love for parents. This fact is thought by some psychologists to afford an explanation of the strict avoidance of certain relatives, and the existence of stringent marriage rules with definite prohibitions. In fact, the whole system of totemism and exogamy observed by many primitive tribes, who know the natural tendency toward certain forms of incest, is a striving to avoid incestuous relationships.

Ideas of the extermination of self are inconceivable to the unconscious mind, and conscious life will not tolerate them, possibly because the thought of annihilation of ego is offensive to pride, and destruction at death means permanent severance from kindred. Possibly this fundamental and ineradicable fear of the destruction of self has led to the invention of beliefs in reincarnation, salvation, and immortality. Burial, in pre-dynastic Egypt, for example, often shows that the position of the corpse was determined by a definite belief in rebirth, for the bodies are placed in a fetal position, so suggesting a return to the womb. Thus runs one line of argument.

Psychoanalytical study has further shown that constant repression of certain ideas, sexual and otherwise, contained in the unconscious mind may lead to psychoses and ill-health. Two ethnologists have recently applied this idea to a study of anthropological data. R. S. Rattray (1928) has pointed out that in Ashanti an actor's

license permits subtle raillery against powerful persons. In the presence of a chief a person who is aggrieved abuses a friend with invective that in reality is directed against the chief himself. This practice provides a safety valve for repressed emotions. The function of collective obscenities as an outlet for sexual desires that have been suppressed has been described by E. E. Evans-Pritchard (1929). He shows that the existence of appointed periods of sexual laxity, perhaps accompanied by saturnalian feasts, which have been usual in all parts of the world and at all periods, may really be instances of a conscious effort to avoid the deleterious effects of constant suppression and censorship. Other contributors to the psychoanalytic method are Róheim (1932, 1933, 1934), Malinowski (1924), Herskovits (1934), and Bonaparte (1934).

As a part of the psychoanalytic technique, dreams among backward people are now receiving attention, and the work done has been summarized by Lincoln (1935). This volume is a comprehensive contribution to oneiromancy, a subject which will be referred to again in describing the functions of the medicine-man (section III).

Lincoln makes a historical review of oneiromancy in which he distinguishes two main approaches to the study of dreams, (1) an animistic attitude, and (2) a rationalistic attitude, both of which have functioned jointly and separately in various times and places. He considers to what extent these attitudes prevail in existing primitive cultures.

There is a dearth of African dream material for analysis, and in future such data should be collected with the following points in view:

- (1) Study of two principal dream patterns, namely, the "individual," "unsought," or "spontaneous" dream occurring in sleep, and the "induced" dream which is sometimes called the "culture pattern dream."
- (2) The function of the dream in primitive society, and the beliefs and theories about it.
- (3) The relation of the manifest content to the immediate culture.
- (4) The influence of dreams on primitive cultures, and the extent to which culture items have originated in dreams.
- (5) The forms and symbols of primitive dreams, together with their distribution and their constant or varying meanings. The inquirer wishes to know whether analysis of primitive dreams and symbols, with their associations, shows the same latent motives

and meanings as among people of more complex cultures. So far as the evidence goes, the psychological structure of primitive dreams appears to be identical with that of non-primitive dreams.

Lincoln discusses the relationship between dreams, myths, and folklore and in doing so makes use of the researches of Freud, Seligman, Rivers, and Rank. Some of the concrete instances are selected from the writings of Rattray and other African ethnologists. A portion of the work is devoted to a survey of messianic cults and dreams, the medicine-man as a prophetic dreamer, and the inspirational dream as a creative force in literature, invention, art, and religion.

THE JUVENILE MIND

Widely distributed among primitive tribes, and common in the spiritual life of African Negroes, are animistic ideas which attribute a conscious life, and even a definite personality, to various animals, trees, and inanimate objects. M. Mead (1932) has reported her series of psychological tests among the Manus people of the Admiralty Islands. The tests were designed to inquire into the hypothesis that children have innate animistic tendencies, that are well preserved and evident in primitive society until they are submerged by education and civilization, which substitute a knowledge of natural laws. Dr. Mead asks whether it is true that there survives in the thought processes and in the institutions of primitive man a type of mentality which is found to be characteristic of the minds of young children in civilization. Are there parallels between animism and the spontaneous thought of young children?

The investigator observed children in ordinary social situations, collected drawings, asked for interpretation of the forms of ink blots, and asked questions that were designed to provoke animistic responses. The experiment failed to show that animistic thought could be explained in terms of intellectual immaturity.

Another inquiry carried out by Mead is of great importance as a practical test of the psychological adjustments made during culture contacts, especially when there is a dominant and complex culture which is gradually submerging a simpler culture.

The study of case records as carried out by Mead (1932) among an Indian tribe is one that would be of great service in many regions of Africa, where the new European culture is tending to submerge the old indigenous patterns.

Case records should include an account of aged persons who have retained their own culture and are little affected by foreign intrusion.

And as a contrast with these the psychological study of individuals should include those who have left their own locality and culture for service among foreigners, and have not returned. These records should be compared with those of young persons who have found only temporary employment with foreigners away from home. Then to complete the study the inquiry should include young persons who, without leaving home, are making an adjustment to foreign rule within their own village. This subject is dealt with in more detail in section IV, under the heading of administration and native welfare.

CONCLUSION

This summary of the methods of research into mentality shows that the inquiry is new and experimental; the field is unexplored. The most practical methods, and those of greatest utilitarian value in administration, are concerned with functional studies, the preparation of monographs on tribal life, and the writing of ethnological stories recording character studies of persons and analysis of the social ethos. Of less immediate practical value are methods which seek to establish psychological explanations of conduct, philosophical generalizations, and quantitative measurement of ability. Yet theoretical approach is a necessary accompaniment of the practical type of investigation which is of definite benefit to teachers and administrators, although the observed facts may remain to a great extent unexplained in terms of psychology and philosophy.

In our present state of knowledge all pronouncements concerning mentality, its origin and possibilities of change, are unreliable, yet two truths emerge. In the first place, it will be wise not to assume certain innate, fixed, ineradicable mental endowments for particular peoples and tribes, because anatomically and psychologically the brain and mind are extremely plastic. Secondly, for the present, and pending further development of experimental technique, the best clue to a comprehension of mentality, both individual and collective, is a practical approach by study of historical background, modes of life, beliefs, institutions, culture contacts, and case records.

VII. LANGUAGES AND LITERATURE

LANGUAGE AND CULTURE

Despite the tendency to speak of language *and* culture, a language is definitely part of a cultural pattern, perhaps the most important trait, since thought and language are so reciprocally related that they at once stimulate cultural growth and are in turn developed thereby. In the languages of tribes, no matter what their specific occupations may be, vocabulary is closely related to the mode of life.

The value of linguistic evidence as an indication of physical and cultural miscegenation may, however, be overestimated. No cultural trait is more mobile than language; therefore, contiguous residence, trade, slavery, and warfare may lead to adoption of vocabulary, elements of grammar, proverbs, and folklore, without the mixing of physical characters by marriage, or the permanent exchange of cultural traits. It is important to note that climatic conditions may set definite limits to the use of certain elements of culture, such as camels, cattle, horses, canoes, weapons, wood carving, and leather work. But the barriers against a mingling of linguistic elements are not so strongly operative.

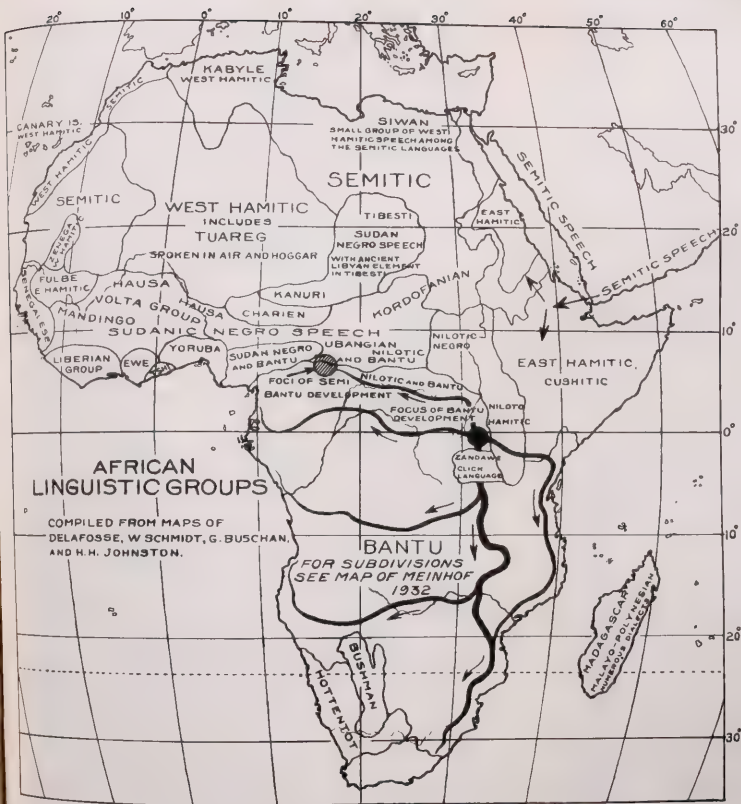
A few instances of the dissemination of a language through the agency of trade will serve to illustrate the mobility of language, and the fact that a transfer of linguistic elements may occur without extensive physical mixture or a general exchange of cultural traits.

The Umbundu language, which belongs to the Bantu family, is understood in all parts of Angola and in places beyond the border, because the Ovimbundu were for several centuries renowned traders whose caravans were almost transcontinental. In east Africa Swahili is spoken over a wide area, and the language, which is a mixture of Bantu and Arabic (Werner, London, 1927, 1930b) is understood by many tribes who have their own languages and cultures. In west Africa Hausa is understood by many tribes in the region between Sierra Leone and Lake Chad. Mende, Efik, and Mandingo are other examples of "trade languages" that are widely used by tribes of different speech and culture.

A modern problem that has recently engaged the attention of the International Institute of African Languages and Cultures, and with some success, is the preparation of a phonetic script suitable for representing the sounds made in all African languages, and the selection of basic languages that can be used for purposes of instruc-



MAP 3.



MAP 3. Tentative scheme of distribution of language families.
Scale: 1 inch=804 miles.

tion in schools where scholars who speak various dialects are assembled (Westermann and Ward, 1933; Meinhof, 1928).

Practical aims of this kind are associated with many academic and theoretical studies concerning the history of African languages, and the two types of research are complementary. To understand the nature of historical problems bearing on linguistic change one has only to recall the English of Chaucer and to compare this with modern English in order to realize the changes in grammar, phonetics spelling, and meaning of words that have taken place during six centuries. Such changes are progressing rapidly in America today. Preservation of examples of archaic speech can be found in rural areas, and even in the city of London Chaucerian English is preserved in Cockney speech.

In Negro Africa some blacksmiths preserve a speech that differs from their ordinary tribal languages. Priests and priestesses in charge of sacred pythons in certain localities of west Africa and Uganda speak archaic tongues during ritual performances, and in west Africa at the present day archaic forms of speech are preserved for use at meetings of secret societies. Further study of these survivals will probably help to explain the nature of linguistic changes. But changes in linguistic form do not necessarily imply a long period of evolution, or devolution. R. S. Rattray (1932a, vol. 1, p. 50) says, "I have myself noticed marked changes in a language during my twenty years in Africa. Every unwritten language spoken in Africa is in this state of flux." R. M. East (1937) has discussed modern tendencies toward linguistic changes in northern Nigeria, and O. F. Raum (1937) has made a somewhat similar study for east Africa.

Further research may prove that Pygmies of the Belgian Congo, who have great linguistic ability, had at one time their own language or languages which were gradually discarded in favor of various Bantu languages; the matter is at present undetermined (Ouzilleau, 1911; Schebesta, 1933, pp. 26, 250).

Clearly, therefore, the rapidity of linguistic changes gives rise to new forms of speech and to a mingling of parent types of speech. Consequently each new formation leads farther away from the parental stem, and so the historical problem of tracing origins and relationships is rendered more difficult.

CLASSIFICATION OF LANGUAGES

(Map 3)

C. Meinhof (1906, 1929, 1932) expressed the idea that the linguistic unity of Bantu languages could be most easily understood

by presupposing a common origin for all the members of the large group. Research was directed toward the establishment of characteristic features of this original or Ur-Bantu, and attention was paid to both grammatical structure and phonology. A map of Bantu tribes and the distribution of language families is given at the end of Meinhof's (1932) "Introduction to the Phonology of the Bantu Languages."

W. A. Crabtree (1917) states that he has found undoubted traces of Semitic influence in Bantu formatives and Bantu roots. He first noticed this coincidence when studying Hebrew. Crabtree gives philological reasons for his belief that some of the roots and formative elements peculiar to Bantu were employed in a similar sense in the Sumerian tongue. Therefore, as in physical anthropology, or in studying the history of cultural traits, historical research in relation to languages becomes more and more retrospective in an attempt to establish phylogenetic relationships.

For a junior student of African languages there are two books eminently suitable as a general approach to linguistic study. These are Sapir (1921) and Bloomfield (1933), both of whom discuss general problems of structure, historical relationships, and phonetic changes.

As an introduction to the languages of Africa, the textbooks of A. Werner are to be specially recommended because of their clarity. Werner's (1930b) "Structure and Relationship of African Languages" and (1925a) "Language Families of Africa" might well form the first step to more difficult reading.

Several contributions in German are particularly helpful in relation to the problem of linguistic classification and the study of changes. Von Koppelman (1934) has dealt in some detail with the possible relationship of climate and speech, while Hestermann (1912-13) and Drexel (1925) have very thoroughly reviewed the tentative groupings and probable migrations of speech in Africa.

As source material Werner (1930a) has produced a useful article, "English Contributions to the Study of African Languages," and Struck's bibliography (1908b) is of great value for those interested in the gradual evolution of linguistic study in Africa. In the bibliography of Struck one will find references to many early standard works and dictionaries, such as W. H. I. Bleek (1862, 1869), Cust (1883), Van der Burgt (1903), Stapleton (1903). Struck's bibliography is of great service in familiarizing a student with the names of African languages and the localities in which they are spoken.

A contribution by Mainguard (1934) is of service in outlining the nature of language and the various aspects that should be included in linguistic study. The main approaches to the understanding of the history and structure of a language are by way of phonetics, morphology, syntax, and vocabulary. Mainguard then deals very lucidly with the linguistic changes due to an impact of Bushmen and Hottentots, and of Hottentots and Bantu.

For periodical literature three valuable sources in English, German, and French respectively are "Bulletin of the School of Oriental Studies," London; "Mitteilungen des Seminars für Orientalischen Sprachen," Berlin; and "Bibliothèque de l'Ecole des Langues Orientales Vivantes." Since the year 1928 bibliographies have been published regularly in "Africa," the organ of the International Institute of African Languages and Cultures. These bibliographies are invaluable as a guide to all recent textbooks, dictionaries, and academic studies. An inquiry addressed to the secretary will bring expert advice on choice of books if the needs of the student are explicitly stated.

Before proceeding to a further survey of African languages reference to Map 3 will be helpful, though the scheme is only tentative; in the present state of knowledge there are differences of opinion. Yet the map serves its general purpose of showing the main linguistic areas and the hypothetical flow of Bantu languages from the Lakes region.

BUSHMAN LANGUAGES

In the year 1837 Arbousset, a French missionary who came into contact with Bushmen, compared their speech to the clucking of turkeys because of the occurrence of numerous clicks. Clicks occur in Zulu and in Sandawe (D. F. Bleek, 1931; Dempwolff, 1916), but such sounds are more characteristic of Bushman languages than of any other speech. Early travelers have often shown a tendency to regard the languages of primitive tribes as simple and elementary, but the following brief analysis will show that, despite the simplicity of cultural patterns when compared with those of Europeans, the vocabularies, syntax, and phonetics of African tribes are complex.

Bushman languages comprise several distinct divisions, a northern, a central, and a southern, all of which are related. Hottentots and Bushmen have a close resemblance in physique and language; but according to hypothesis certain linguistic and somatic traits of Hottentots are due to Hamitic admixture. The Nama Hottentots speak a language that has been affected by Hamitic forms.

In Bushman languages five significant tone levels occur, and one word may have five distinct meanings according to the use of a high, middle, low, falling, or rising tone. This semantic value is not peculiar to Bushman speech. Tonal values are extensively used in the Sudanic Negro languages, and to a much smaller extent in Bantu.

In Bushman languages a dental click is made by pressing the tip of the tongue against the front teeth and withdrawing it suddenly. The cerebral click is produced by pressure of the tongue against the palate, followed by sudden removal. When making a lateral click the tongue is quickly withdrawn from the side of the mouth as in making the click that urges a horse. In addition to these clicks there are the palatal and the labial (see Anders, "The Clicks," 1937).

Consideration of Bushman languages of the southern group shows that the plural of a noun is formed by repetition of the word, and the meaning of a word may depend, not only on its tone, but on position in the sentence. In the language of the Naron Bushmen there are three genders, masculine, feminine, and common, each of which is indicated by a suffix. Thus, the word *kwe* means a human being, and the gender is common since no sex is indicated. But if the speaker wishes to mention that the human being was a man he uses the word *kweba*. The last syllable, *ba*, is a suffix indicating masculine gender. Similarly, by adding the feminine suffix *sa* to make the word *kvesa*, a woman is indicated. In Bushman languages other than Naron there is no sex gender, and the word for man or woman is used to qualify the substantive.

Two forms for expressing number are recognized in the southern and the northern Bushman languages, and in Naron and the Hottentot languages there is a form to express duality. The idea of number is applied to substantives, to pronouns, and, in a few languages, to adjectives. The verb usually remains unaltered in form irrespective of the number of the governing substantive. In Auen the plural suffix is *si*. The word *!num* means "a stone"; *!numsi* is the plural. The sign *!* stands for an initial click. In English transcriptions of Bushman languages each kind of click, dental, labial, etc., is represented by a distinctive sign.

Three classes of persons are recognized by all the Khoisan languages. There is the person speaking, the person spoken to, and the person spoken about; these forms are indicated by personal pronouns, both singular and plural. In the southern group of Bushman languages there are inclusive and exclusive forms of personal pronouns; that is to say, a pronoun may include the person

addressed as well as the speaker, or the person addressed may be excluded. The Khoisan languages (Bushman and Hottentot) do not have verbal declension, and notion of time (tense) is expressed by use of the auxiliary particles. The rules affecting case, and the several usages affecting the order of words in a sentence are too complicated for enumeration here (Meinhof, 1930).

The vocabulary of the Khoisan languages is very restricted with reference to abstract ideas. On the contrary, an extensive vocabulary is used to describe veld lore, wild animals, birds, trees, herbs, roots, and the technique of hunting. Comparison of vocabularies of Bushman tribes shows that they have many words in common, and Nama Hottentot shares a large number of root words with one or another of the Bushman languages. Schapera (1930a, pp. 417-438; 1926, pp. 833, 866) quotes evidence to indicate that Hottentot languages are shown by recent research to have closer affinities with Bushman than with Hamitic languages, though the Hamitic elements are undeniable.

SUDANIC LANGUAGES

Sudanic Negro languages are distributed over a large zone extending from Gambia in far west Africa to a region west of the River Nile. To the north of the Sudanic area are the Hamitic and Semitic tongues of north Africa, and to the south are the Bantu languages; this juxtaposition has resulted in a mingling of different grammatical elements, to a greater or less degree according to locality. D. Westermann (1930) states that the relationship among the Sudanic languages themselves is less obvious than the interrelation of the Bantu languages, whose affinities to one another can be readily recognized. The phylogenetic relationship of the Sudanic and Bantu Negro languages has been discussed by Westermann in detail (1927). In four groups of the Sudanic languages the affix system is well developed for dividing nouns into classes as in Bantu languages, but this feature may be of independent development, and the classes are not necessarily a proof of phylogenetic connection with Bantu.

The main groups of the Sudanic languages (Westermann's 1930 classification) are given below:

(1) The Kwa group is spoken from the middle of Liberia to the lower Niger. This group includes Ewe-Akan, Kru, Yoruba, Igara, Okpoto, Nupe, Ibo, Edo, Bini, and Ijaw. Ewe is spoken in the extreme southeast corner of the Gold Coast, in the southern half of Togo and Dahomey up to 8° N. Lat., and along the coast as far east

as Badagri. Kru is a Liberian language. The names Yoruba and Ijaw are descriptive of large tribes and linguistic divisions in Nigeria. The Ibo and the Ijaw can be regarded as the oldest representatives of true Negro stock.

(2) The Benue Cross-River languages, with Efik and Ibibio as two representatives of the group, are located in eastern Nigeria.

(3) The third group is in central Togoland.

(4) Gur languages are spoken in northern Togoland and the Northern Territories of the Gold Coast. Subgroups in this division are Mosi, Dagomba, Kusai, Mamprusi, Gurundsi, and many others.

(5) The West Atlantic group includes languages spoken in Senegal (Yolof and Serer tribes), in Portuguese Guinea, and by the Temne and Bulom tribes.

(6) The Mandingo and Mande languages comprise a large number of subdivisions that have been described in detail by Delafosse (1929).

(7) At the eastern end of the Sudanic zone the most important languages are Shilluk, Dinka, Nuer, and Zande.

The division of African languages into Hamitic, Semitic, Sudanic, Bantu, and Bushman is convenient for the present. Such classification is justifiable since each main group has distinguishing and definite characters, yet the possibility of remote generic relationship of all the languages should be kept in mind when the characteristic features of any one group are under discussion. With further research the terminology may be improved.

The Sudanic languages have traits that serve to give definiteness of character, and they have a recognizable morphology in which the following features are prominent though not invariable.

In the first place, the Sudanic languages are monosyllabic and isolating, and in this they differ fundamentally from Hamitic and Semitic, which are highly inflectional. Sudanic languages are built up from certain basic units of speech: nouns, pronouns, verbs, adjectives, and adverbs. Some parts of speech, instead of being inflected to express gender, number, tense, and degree, are actually changed in form (not merely inflected). Or the unit of speech may preserve its form but receive another position in the sentence in order to mark a change of meaning. Finally, the high, middle, and low tones are used to distinguish differences in meaning of words that are otherwise alike. Tonal values are well developed; but word stress is absent. In showing the genitive (possessive case), the name of the possessor precedes the name of the thing possessed.

Since there are no relative pronouns, complex sentences are not constructed; the arrangement is said to be coordinative. The sentence, "He jumped from the ship into the sea," would be rendered, "He jumped, he left inside of ship, he fell to sea." Despite this apparent simplicity of structure and the absence of inflection, fine shades of meaning can be conveyed in some Sudanic languages. R. S. Rattray (1932a, vol. 1, pp. 61-63) mentions the expression of various conceptions of past and future in the Dagbane language. The particle *de* denotes immediate past, *sa* refers to events of yesterday, and *da* conveys the idea of a past more remote than today or yesterday. In the same way an immediate future, a future limited to tomorrow, and a vague future can be expressed. No passive voice can be expressed in Sudanic. "The horse was killed by Musa," becomes, "It is Musa; he killed the horse."

The following examples will illustrate the way in which changes of meaning are achieved in Sudanic languages, despite the absence of inflections.

In Ibo, which is spoken in several dialects near Onitsha in Nigeria, the syllable *bu* means "carry" and *da* means "fall." Then by combination of these the word *buda*, "bring down," is made. A few examples from Ewe and Yoruba will indicate the dependence of meaning on tone. An acute accent indicates a high tone, and a grave accent shows a low tone. In Ewe, *dà* means "throw," *dá*, "crawl." *Dó* means "say," and *dò*, "be sad"; *do* on a level tone means "sleep."

In Yoruba *agba* on a level tone means "rope"; *àgbà* means an "elder," and *àgbá*, "cannon." The meaning of *òpó* is "a post"; *opó* is "a window," and *òpò* is "to be busy." Gender may be shown in this way: *ako* means male, and *abo* means female. Therefore, *ako-esin* is a stallion, and *abo-esin* is a mare. In the Gã language *china-nu* means "bull," and *china-yo* means "cow." Plurals have usually to be judged by the context, but in Nuer singulars and plurals of nouns are known by different tones.

In the Tshi group syllables are brought together to change verbs to nouns. *Wu* means "to die," from which the word *awu*, "murderer," is obtained. *Bo* means "to worship," and *abo* is "a worshipper."

The *Lautbilder* described by D. Westermann are sound pictures that frequently occur in the Ewe language. *Zo-ka-ka* means "to walk upright"; *zo-boko-boko* refers to the heavy walk of a fat man; and *zo-lumo-lumo* describes the pattering run of small animals.

For the further study of tones in Sudanic speech the articles of A. L. James (1923, 1928) are important for Yoruba, those of Schober (1933) for Ewe, and I. C. Ward (1933) for Efik. Herzog (1934) should be consulted for an article on "Speech Melody and Primitive Music," and these contributions should be read in conjunction with those of Nekes (1911a, 1911b, 1928) on the subject of musical tones in Bantu speech.

For general study of the character of Sudanic speech contributions by I. C. Ward (1935, 1936), Migeod (1913), N. W. Thomas (1920a), and Westermann (1935a) are of great service. Delafosse (1929) made a noteworthy study of the Mandingo language, and a bibliography of the writings of Delafosse will be found in Fligelman (1931, pp. 283-286). Lukas (1936) has written on the "Linguistic Situation in the Lake Chad Area." Hambly (1935a) has a bibliography containing many items of linguistic interest for Nigeria.

For study of languages of the southern Sudan Struck (1928) has provided a bibliography, and A. N. Tucker (1934) has reported on the present linguistic situation in an article which includes a tribal map. For the Nilotic languages, which are still imperfectly known, G. W. Murray's (1920) article will prove useful. An English-Nubian Comparative Dictionary by G. W. Murray (1923a) gives excellent examples of the mixture of linguistic elements in Nubian. The language is Sudanic, with Hamitic and Semitic elements. Some Greek words are present because Nubian was the language of the early Christian church of Nubia. Appendix II is a valuable bibliography of Semitic, Hamitic, and Nilotic studies.

BANTU LANGUAGES

The word Bantu, introduced by W. H. I. Bleek (1862-1869), is derived from *ba*, a plural prefix, and *ntu*, meaning "a man." The name is given to a large linguistic family that includes at least two hundred and fifty languages and an undetermined number of dialects. Despite diversity of vocabularies, and some morphological differences, considerable uniformity of structure exists among languages of the Bantu family. Similarity of root words in regions far apart may be observed in H. H. Johnston's "A Comparative Study of the Bantu and Semi-Bantu Languages." This work classifies Bantu languages into groups that are based mainly on similarities in roots and vocabularies.

In addition to Meinhof's (1932) map of Bantu languages a classification of Bantu-speaking tribes has been made by Schapera (1929a), and by Van Warmelo (1935) for the Bantu of south Africa. Tessmann

(1932) has written an account of Cameroons languages and has prepared a map of distribution for that area. But C. M. Doke (1933, 1935b) states that up to the present time the Bantu languages have been classified geographically rather than philologically, and that further study is required to give a more satisfactory grouping according to structure.

Some of the main characteristics of the Bantu languages are as follows:

Nouns are divided into classes which vary in number according to the particular language under consideration. A noun class can be distinguished by a typical singular prefix which is changed to another prefix to form a plural. These prefixes form alliterative concords with their associated adjectives and pronouns. Bantu nouns have no grammatical gender. The genitive requires that the name of the thing possessed shall precede the name of the possessor. There is distinct word stress; for example, on the penultimate syllable in the tribal name *Ovimbundu*. Tones, which are high, middle, and low, have a semantic value; they distinguish the meanings of words which are otherwise alike. Bantu has formative elements to express case and tense, and the Bantu languages are said to be agglutinative, whereas Sudanic is isolating, and Hamitic and Semitic are inflected.

A few examples from Umbundu, the language of the Ovimbundu of Angola (Hambly, 1934a, pp. 234-261) and from Zulu (Doke, 1931b) will indicate the structural devices that are used to convey ideas of gender, tense, and number.

In Umbundu the word *omunu* means "a person." This is a class I noun which requires the prefix *oma* to form the plural; *omanu* means "persons." In class I.a is the word *ufeko*, "girl," which is changed either to *afeko* or to *ovafeko* in the plural. In class II the word *uta* is "a gun," which becomes *ovota* in the plural.

Alliterative concord between a noun and the qualifying adjective is seen in *utima utito*, "a small heart," which has in the plural *ovitima vitito*. Concord must be observed between a noun and the possessive pronoun; therefore, *ocitunyu cange*, "my pit," or literally "pit of me," becomes in the plural *ovitunyu viange*. *Uti wove*, "tree of you," becomes in the plural *oviti viene*, "your trees," literally "trees of you."

Verbs and pronouns illustrate further points of syntax. The stem of a verb is seen in the imperative singular; for example, *tunga* means "build." "I shall build the house" is translated by *ndi tunga onjo*. "You will build the house" is *o tunga onjo*, and "They

will build the house" is *va tunga onjo*. Merely the personal pronoun is changed. The suffix *isa* is causative; therefore one might say *va tungisa onjo*, "They caused the house to be built." The prefix *oku* is a sign of the infinitive, as in the forms *oku lia*, "to eat," and *oku tunga*, "to build."

The semantic value of tones is not so prevalent in Bantu languages as in the Sudanic, nevertheless Bantu tonal values are important (Hulstert, 1934; Nekes, 1911a, 1911b, 1928). In Umbundu the following words depend on tone for their meaning. The word *ombambi* (low tone) means a "cold" or "fever," but on a high tone the word means "bush buck." *Onjila* can mean a "bird" or a "path." *Ombumbi* is a "gateway" or a root used in brewing beer.

Tones shift in bringing a noun into concord with a qualifying adjective. The grave accent shows a low tone, and the acute accent a high tone. The word *úti* means a "tree," *úti únénè* is a "large tree;" *ólwéyo*, "broom," becomes *ólwèyo lùwa*, "good broom."

In the introduction to his Zulu Grammar C. M. Doke (1931b) points out that Bantu languages may be classified in two main groups: (I) with dissyllabic noun prefixes, and (II) with monosyllabic noun prefixes. Zulu belongs to the former group. Zulu is not a pure language, for clicks have been adopted from Bushman languages. The three clicks in Zulu are the dental, palato-alveolar, and lateral. In Zulu two types of stress exist, a main and a secondary. If emphasis is required on a particular word, a change in the order of the words is usually made. In Zulu, tone is semantic and a nine-tone system exists; that is, the range of speech covers nine different pitches. The tones are of two main types; level, and gliding. In the following examples the highest tone is marked (1) and the lowest tone (9):

^{3 2 9}
umuzi, kraal

^{3 3-8 8-3}
umuzi, grass for mats

In Zulu, tone has a grammatical significance:

^{6 6 6}
ngihlanza, I wash

^{6 3 9}
ngihlanza, I washing

Tonal change expresses emphasis:

^{5 3 9}
mkhulu, he is big

^{4 1 1-2}
mkhulu, he is very, very big

Zulu has eight class genders, each of which has its own characteristic prefix which requires a certain change to mark the plural. In proto-Bantu each class of nouns had a definite significance which is still recognizable in certain classes of modern Zulu. Class I is the personal class. Class VII is the abstract class, and the division

contains nouns expressing collectivity. In Class II the singular prefix is *umu*, and the plural is *imi*. In Class III the singular prefix *ili* becomes *ama* in the plural.

Gender is indicated by addition of a suffix: *imbuzi*, "goat," and *imbuzihaze*, "she goat"; *inja*, "dog," and *injakazi*, "bitch." In addition to the substantive, Doke describes pronouns, adjectives, adverbs, verbs, conjunctions, and interjections.

Each pronoun is itself a complete word which may stand instead of a noun, or it may be used in apposition to a noun, either before or after the noun without inflection. Adjectives qualify substantives with which they are brought into concordial agreement. Adverbs indicate time, place, and manner. Many nouns are used as adverbs without any inflection. Except in the imperative and the infinitive a verb is composed of two parts: (1) a verb stem which may undergo various inflections; (2) subjectival verb concord, which may alter for certain classes in different moods and conjugations. A verb in Zulu is divided into two conjugations, a positive and a negative. Each conjugation has seven moods: infinitive, imperative, indicative, dependent, situative, potential, and intentional. The indicative mood has tenses dividing time into remote past, immediate past, present, immediate future, and remote future.

HAMITIC AND SEMITIC LANGUAGES

The Hamitic and Semitic problem, with special reference to origins and lines of dispersal, has been discussed by G. A. Barton in "Semitic and Hamitic Origins." In opposition to prevailing hypothesis which makes Arabia the home of an ancestral Hamitic-Semitic group, he arrives at the conclusion that philological evidence favors a hypothesis of Hamitic origin in north Africa. There is great variation in the vocabulary and structure of Hamitic languages as a result of Hamitic migrations. On the contrary, Semitic languages resemble one another so closely that it is clear that the ancestors of those who spoke them must have dwelt for a long time in close association and isolated from foreign influence. Hamitic languages are older than Semitic. Barton (p. 26) postulates that ancestors of Hamites and Semites developed in north Africa, and that Semites are derived from a Hamito-Semitic stock that entered Arabia from Africa by the strait of Bab-el-Mandeb.

The ancient Egyptians and Libyans spoke Hamitic tongues, and at present the Tamashek language of the Tuareg, and the Berber speech which is widely used in north Africa, are based on ancient

Hamitic languages. Differentiation has taken place unceasingly, with the result that several distinct forms of Berber and Tuareg languages have been formed. These languages are similar, and both, in varying degree according to locality, have been affected by Arabic (Semitic).

Oric Bates (1914, p. 74) gives a list of forty Berber dialects, and he provides a useful summary of the views of Basset (1921), Renan (1873), Hanoteau (1896) and many other linguists respecting the relationship of ancient Libyan to modern Berber and Tamashek languages. A comparative study of the symbols of Libyan, T'ifinagh, and Punic is made (Bates, pp. 87-89).

Bertholon (1912, vol. 2, pp. 503-518) speaks of the Hamitic substratum of ancient Libyan, Egyptian, modern Berber dialects, and Tamashek. The present-day Berber tongues show traces of Negro vocabulary, Arabic, Nordic, Greek, and Latin. Destaing (1920) has published a vocabulary of Berber dialects. "Berber" is a corruption of a Greek word that was originally applied to persons who were neither Greek nor Roman. The word has no relation to the terms Berberines, or Barabra, which are applied to certain inhabitants of Nubia, an area to the east of the middle course of the Nile. The Berberines speak a Sudanic language.

Hausa, for which F. W. Taylor (1922) has written an elementary grammar, and Bargery has published a standard dictionary (1935), is widely spoken in west Africa. Hausa is primarily Hamitic, though it has tones like those of the Sudanic Negro languages, and some Semitic roots are present. C. Meinhof (1912) classes Fulani as proto-Hamitic, and the position of this language has been discussed by Drexel (1928). A further example of linguistic mixture may be observed in the oasis of Siwa (Basset, 1921), where descendants of ancient Libyans preserve elements of old Hamitic speech corrupted by Arabic and Tamashek (W. S. Walker, 1921, Cline, 1936a, p. 8).

In northeast Africa, Hamitic languages are spoken by the Somali, Galla, and Danakil. Masai also is Hamitic, and some Hamitic elements have affected the speech of the Shilluk, the Dinka, and the Nuer, who have languages that are primarily of Sudanic Negro stock. In south Africa the Hottentot languages, for example, Nama and Korana, have both Hamitic and Bushman elements. In connection with the study of Hamitic languages, articles by Vycichl (1935) and Brockelmann (1932) will serve to introduce the problem of the relationship of Hamitic to other African languages.

Modern Arabic is the most important of the Semitic languages of Africa, but some forms of old Semitic tongues are still in use. The Beni Amer of the Red Sea Province, who are Hamites, physically and culturally, speak Tigré, which is a modern representative of Ge'ez (Ethiopic), a relative of the ancient Sabaean of southern Arabia. Ge'ez is still used for liturgies in the Abyssinian church. Amharic is a written language which is a descendant of Ethiopic (Semitic) modified by Hamitic (M. Cohen, 1936).

Arabic, which has spread in Africa since the seventh century, has many local forms. In Morocco there occur a shortening of vowels, a clipping of terminations, and omission of syllables, when compared with standard Arabic. But some of the changes are not corruptions; they are rather survivals of archaic forms. A considerable amount of bastard Arabic is spoken in the eastern Sudan (A. N. Tucker, 1934). Swahili of the east coast is a Bantu Negro language with many Arabic words in the vocabulary. A. and M. H. Werner's "First Swahili Book," 1927, 2nd Ed. 1930, is an excellent introduction to the study of Swahili; a bibliography introduces the student to more advanced works.

Of practical importance to those beginning a study of Arabic language and literature are Willmore's (1927) "Handbook of Spoken Egyptian Arabic," and Gibb's (1926) "Arabic Literature." The work of Gibb provides a bibliography, and he surveys Arab literature from pre-Koranic times to the year A.D. 1800. The book gives a brief summary of the history of the Arabs in Africa, Persia, and India. Renan's (1863) "Histoire des langues sémitiques" is a well-known classic. Cohen (1924), and others in "Bibliothèque de L'Ecole des Langues Orientales Vivantes" have made contributions to the study of Semitic languages.

The Semitic languages are fully inflected by prefixes, suffixes, and vowel changes, and Semitic, unlike Hamitic, has triliteral roots. As the name implies, these triliteral roots consist of three parts, examples of which are seen in the Arabic *qatala*, "he killed"; *nasara*, "he helped."

In the Hamitic languages semantic tones are not usually present; but Hausa, Nama Hottentot, and Masai are exceptions, for in these tongues certain words, which are otherwise alike, have different meanings according to tone. In some Hamitic languages, for example, Shila and the Rif dialects of Morocco, stress thrusts out vowels and makes harsh guttural sounds.

Hamitic languages are inflected to give grammatical gender, which is not so with Bantu languages, and in Hamitic, inflections are used to give tense and number; generally these inflections take the form of suffixes rather than prefixes.

In Hamitic, case relations are usually expressed by a suffix. There are masculine and feminine articles, and also a form to express common gender. The two plurals are "collective" and "universal," both of which are shown by terminal inflections. *Polarity* is a feature of Hamitic languages; that is to say, nouns that are masculine in the singular take feminine terminations in the plural, and vice versa. The verb usually precedes its subject. The genitive (possessive) is the same as in Bantu; the name of the thing possessed is mentioned before the possessor, for example, "house of you," instead of "your house."

The chief characteristic of the Hamitic and Semitic languages in comparison with the Bantu, Sudanic, and Bushman, is their high degree of inflection for the expression of number, gender, tense, and voice. A few examples of inflection are given below.


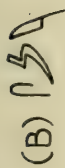

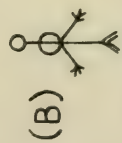

Inflection for number is seen in *Ieslema*, "a Mohammedan," *Ieslemen*, "Mohammedans," and *Ieslemen-t*, "the Mohammedan world." This example is from Khamir, a Hamitic language of north Abyssinia. In Hausa the word *sariki* means a "king" or "chief." The "chief's wife," or "the king's wife" is *sarikya*; the feminine has been expressed by a change of termination. Similarly in Hausa *yaro* means "boy," and *yarinya* means "girl." In the genitive, a change from masculine to feminine is seen in the words "king's son," expressed by *yaro-n-sariki*, and "the king's daughter," which has the feminine form *yarinya-t-sariki*. In Arabic, a change of voice is shown by internal inflection. Thus *qatala*, "he killed," is active voice, while *qutla* is the passive voice, "he was killed."

WRITING

(Table 9)

I. Egyptian hieroglyphs: (A) *pennu*, mouse; (B) *sma*, to slay. II. Libyan. III. T'ifinagh: (A) naught but good. IV. Amharic: (A) river; (B) island. V. Arabic: (A) a game; (B) fifteen. VI. Vai, each character is a syllabic sign. VII. Nsibidi: (A) Very great love between husband and wife. The center star denotes a warm and loving heart; (B) A slave with his hands tied together; (C) The sun. VIII. Seven symbols that were added to Greek characters for the writing of Coptic.

SPECIMENS OF AFRICAN WRITING

- I (A)  (B) 
- II $\bigcirc \text{m} \square (B); + \text{m} \times (T); \equiv (A); \parallel (GH); \bigcirc \text{m} \square (R);$
- III (A) $\parallel :: \bigcirc : \bigcirc$... (K); $\equiv (S); \equiv (D); \leq = (I.V).$
- IV (A) $\eta = \zeta \eta \bar{\eta}$ (B) $\eta \cdot \eta \eta \eta \zeta = \eta \eta$
- V (A) افيان (B) اوزنش
- VI $\text{+} \times \text{m} \text{K} \bar{\text{K}} \text{m} \text{f} \cdot \eta \eta \text{+} \text{+} \text{+} \text{+} \text{+} \text{+} \text{+} \text{+}$
- VII (A)  (B)  (C) 
- VIII $\text{w}, \text{q}, \text{z}, \text{e}, \text{x}, \text{c}, \text{t}$

The Hamitico-Semitic languages—Egyptian, Arabic, Libyan, and Amharic—have written characters, but the only attempts of Negroes to invent a script are those of the Vai in Liberia, the Bamum in Cameroons, the Efik near Calabar, and a tribe of Sierra Leone (Sumner, 1932). Of these scripts, Egyptian and Arabic are the most important. The former, first as hieroglyphs, then as cursive writing, gives a detailed history of social and religious development in Egypt from at least 3500 B.C. onward. Arabic later takes up the story of events in north Africa, the Sudan, and the east coast from A.D. 700 to modern times. Events of Abyssinian history are recorded in Amharic, while Greek, Roman, and Coptic have preserved historical records for late Egyptian and north African history. Yet these chronicles leave by far the greater part of African history unrecorded. As a general introduction to a study of African script Hoffman (1895) and Mason (1920) will be found useful.

The beginnings of Egyptian writing are unknown, but six thousand years ago pictures were used to represent words, and this cumbersome method evolved into a cursive hand called hieratic, which in turn gave way to demotic. Each change represented a simplification and a further conventionalizing of the original hieroglyphic characters.

In the hieroglyphic system, a draughtboard set with pieces meant a game of draughts, but at a later stage in the development of Egyptian writing the same drawing conveyed the idea of "being set." The pictograph had developed into an ideograph; then came a phonetic stage in which the written character appealed to both the eye and the ear of the reader. Thus, a picture of a human arm primarily meant an arm; later, the syllable *heb*, "arm," could be represented by the picture of an arm to stand for the sound *heb* in any word in which that sound occurred.

An ingenious use of symbols known as determinatives was combined with the use of phonograms, and at the end of the word a picture was added. For example, at the end of the phonograms giving sounds for the word "woman" a kneeling figure of a woman was drawn, to avoid making mistakes in the interpretation of the phonetically spelled word. At the end of the phonograms for the word "eating," a picture showing a man with his hand to his mouth was added. In Table 9, example I A, a hide with tail attached is a determinative for the word "mouse."

By the second century of the Christian era the Egyptian language was represented in Greek characters, though some demotic signs

were retained, and two hundred years later, Coptic, in which parts of the Bible were written, was generally used (Table 9, example VIII). The Egyptians themselves attributed the origin of their writing to the god Thoth, who is represented with a pen and a writing tablet. Rationalizing by means of explanatory myths is usual among people who wish to explain the presence of certain important cultural elements. The Egyptians had stories to explain not only the invention of writing, but the apparent journey of the sun, eclipses of the moon, and other phenomena.

No reason exists for supposing that Egyptian writing was imported from outside Egypt, though the speech contains trilateral roots, which are characteristic of Semitic tongues, and there are Hamitic features as well. Decipherment of Egyptian hieroglyphs and other forms of writing did not begin until the year 1802, when a trilingual inscription in Greek, hieroglyphs, and demotic was deciphered from a slab known as the Rosetta Stone. Since that time scholars have concentrated on the translation of inscriptions from monuments and papyri.

Oric Bates (1914) states that no inscription in Libyan characters has yet proved older than the fourth century B.C. The chief center of Libyan culture was west of the Nile, and the dispersal of culture was westward to the Canary Islands.

Study of Libyan inscriptions (Table 9, examples II and III) leads to the conclusion that the Libyans adopted characters from Phoenician script, and to these signs they added enough owners' marks to make an alphabet, which despite its crudity was adequate for their needs. Libyan inscriptions are read from below upward, beginning usually with the right-hand column. More rarely the inscriptions are horizontal; then they are read from right to left (Mélix, 1892; Bertholon and Chantre, 1912, vol. 2, pp. 503-518).

Bertholon and Chantre have prepared a tabular statement in six columns showing the similarity of some symbols used in T'ifinagh, Libyan, Cretan-Egean, Cypriote, Archaic Greek, and Etruscan. Chantre points out that the most ancient traces of Libyan writing are rock inscriptions, possibly funerary, and some of these are perhaps as early as the Neolithic period in north Africa. According to Chantre, the history of our study of Libyan characters is traceable to the discovery of a bilingual inscription on a stone found at Dougga in the seventeenth century. As a source book for the study of Libyan and Punic, Chantre gives the "*Revue Africaine*" (especially Tome 4, pp. 154-237), published by the Société Historique d'Alger.

Some Libyan characters have been incorporated in T'ifinagh, the script in which Tamashek (Temajegk), the language of the Tuareg, is written. F. R. Rodd (1926, p. 267) states that Ifadeyn Tuareg, both male and female, still read and write Tamashek. They use the script for messages and for inscribing records of visits on trees and rocks. Some present-day writing of the Tuareg (Table 9, III) is composed of personal or tribal marks grouped together; but the difficulty of deciphering inscriptions in T'ifinagh is due to the fact that they may be written to read up or down, from left to right, or from right to left. H. R. Palmer (1932) connects T'ifinagh script with the Sabaean characters of south Arabia and those of the Ethiopic alphabet. He believes that the Tuareg first entered the Sahara, A.D. 300-600, bringing camels from the eastern Sudan.

Amharic, an ancient Semitic tongue, has been the official written language of Amhara, the central province of Abyssinia, since A.D. 1300. Amharic is written in Ethiopic characters (Brauner-Plazikowski, 1914, Cohen, 1936), but the use of this language has been too restricted to assist with general problems of African history (Table 9, IV).

Arabic (Table 9, V A and B) is now the official language of Egypt and many parts of north Africa. The history, philosophy, religion, poetry, and folklore of the Arabs are contained in many books and manuscripts, and Arabic is used in modern newspapers of Egypt. Historical documents and correspondence in Arabic show an ornate style. The former begin with, "In the name of Allah, the compassionate, the merciful," and the latter have a complimentary introduction, "To the Great and Glorious Governor, peace be unto thee, and the mercy of God and his blessing." On the outside of the folded paper may be written, "To reach, if it please God, the hand of . . . ;" then follows the name of the recipient.

In Mohammedan schools children may be seen seated on the ground before their *mallam*, who instructs them in writing Koranic texts on smooth boards with ink and reed pens, after which the texts are chanted in unison (Fig. 61). Arabic is used for writing Hausa, Mandingo, and Swahili, but E. Steere (1908) states that Arabic characters will never be able to express the sounds of Swahili. The reason for this is that Swahili has five vowels and Arabic has only three. Arabic supplies no characters for the Swahili consonants *ch*, *g*, *p*, or *v*.

The Vai of Liberia, who are ethnologically part of the Mandingo people, have a script that Koelle of the Church Missionary Society



a



b

FIG. 61. Mohammedan education. *a.* Mallam of Bida, Nigeria, writing Koranic texts. *b.* School in Kano market, Nigeria.

traced to the independent invention of Bukere, a Vai who died in the year 1850. Bukere stated that he had a dream in which a white man appeared and explained to him the use of writing. Bukere then noted all the sounds in the Vai language and gave to each sound a sign. Inspection of the 160 characters indicates that these are of independent origin; the script does not appear to be related to any system of calligraphy, African or otherwise. An editorial note in HAS, vol. 1, 1917, p. 292 gives important data relating to the history of the Vai script, and a facsimile of the first published script is shown.

The Vai signs have changed in form and number to some extent since their invention, but they still provide a script that has been used for writing parts of the Bible and the Koran. The characters are mainly geometrical, but some pictographs exist. A circle with dots for eyes and a stroke for a mouth represents a human head, while a stick and twisted lines symbolize fire (Migeod, 1909; Massaquoi, 1911; Klingenberg, 1933; Johnston, 1906, vol. 2, pp. 1116-35). For a sample of Vai characters see Table 9, example VI.

When the chief Njoya of the Bamum tribe of Cameroons was a youth of sixteen years, his father became interested in books, chiefly the Koran, carried by Hausa traders. In later years Njoya instructed his officers to invent signs to express sounds in their language, and from this collection he chose the most useful symbols.

Njoya purchased slates and made himself a teacher of the script, and Malcolm (1920b), quoting Goring (1907), states that six hundred natives were able to read and write the new characters. Njoya kept a record of events in this script, and he used it for keeping tally of purchases. H. H. Johnston, in his preface to Malcolm's article, states that the Bamum script resembles Vai writing, and that some of the signs are trade-marks from packing cases, and with this opinion L. W. G. Malcolm agrees (Malcolm, 1920; O. G. S. Crawford, 1935; Labouret, 1934b).

In the year 1905, T. D. Maxwell, District Officer at Calabar in east Nigeria, discovered a secret primitive writing among the Efik. The characters are to some extent pictographic, though the signs have become so conventionalized that their meaning is not apparent. The script takes the name of a powerful secret society, Nsibidi, to which only chiefs might belong. Messages were sent in Nsibidi (Table 9, example VII), whose characters were cut or painted on palm stems. The characters of this script are painted on the faces of girls by their female relatives. P. A. Talbot (1912, p. 320) states

that "sometimes a girl's life history is proclaimed in this manner." The Ekoi assert that the script was taught by monkeys who sat round their campfires. Certain signs represent a trial before the courthouse, which is shown as an oval, while the executioners are indicated by five symbols, each formed like a letter T. This script is used for writing complete stories, some of which are shown by Talbot in pictures of Nsibidi accompanied by translations. Articles by Macgregor (1909) and Dayrell (1911) give further information about the script Nsibidi.

PROVERBS

The wit and humor of brief sententious sayings can be illustrated by examples from Hamitic and Negro languages. These aphorisms, riddles, and proverbs are used to point out a moral, to impress children, or to give point to an argument, and in addition there may be some latent content that gives veiled expression to sexual or other ideas which are usually suppressed.

The Tuareg, whose lives have been associated with raids and reprisals, express mistrust in the proverb, "It is better to see than to believe." Other aphorisms that are relevant of their mentality are: "It is better to conceal than to refuse"; and "Noise and the chase do not go together."

The following are proverbs collected from a district west of the Cavally River, which divides Liberia from the Ivory Coast. These and many similar ones are used by five tribes collectively known as the Gweabo (Sapir and Blooah, 1929; Herzog and Blooah, 1936).

The palm tree says, "We do not know the child of wealth by his size." The meaning is that the largest palm does not necessarily give the greatest weight of nuts; the appearance of a person is not a reliable indication of his wealth. If a stranger is presumptuous, he is reminded of his position in the village by the proverb, "A stranger's feet are small," a sentence that refers to the bartering of chickens. These birds find themselves in new places among strange and possibly hostile poultry; therefore, the new arrivals have to step warily. Impecunious people express optimism in an expression which is attributed to a frog who said, "I possess nothing, but I have my jump."

R. S. Rattray (1928, p. 304) asked some people of Ashanti whether they did not protest when the king used false weights to his own advantage when weighing gold dust. To express the danger and the futility of protesting against royalty the people quoted their proverb, "One does not rub bottoms with a porcupine."

The Ibo of Nigeria say, "When a traveler reaches a land where men cut off their ears he cuts off his own." This is equivalent to the English, "Do in Rome as the Romans do." The proverb, "Charity begins at home," has a parallel in the Ibo saying, "It is the place a man lives in that he repairs." The proverb, "When you play with a puppy, he tears your clothes," means that "familiarity breeds contempt." (Basden, 1921, p. 283.)

From the Ovimbundu of Angola, Hambly (1934a, pp. 253-254) collected a few brief sayings, some of which are quoted below:

"You cannot tie a buck's head in a cloth; the horns will stick out." This means, "Murder will out."

"A turtle cannot climb on a tree stump; someone has to put it there." The saying refers to inheritance of kingship which usually descends to the oldest son of the deceased chief's principal wife. But if this youth is foolish, another successor is chosen. Yet influential persons may see their own advantage in aiding the foolish heir to gain office—the "turtle has been placed on the tree stump."

In order to deride a person who makes threats or promises that he is unable to fulfill, the Ovimbundu say, "Hot water does not burn a house," or "Cold water does not make mush." The proverb, "A sleeping dog does not catch a hare," has a similar meaning.

If two persons have a secret, the fact is expressed by saying, "They uncovered the pot, ate a little honey, and covered it again."

As a warning not to be foolish through good fortune, the Ovimbundu say, "If you are full of food, do not climb on a leopard's back." The implication is that, although you yourself are not hungry, the leopard may have a good appetite.

Understanding of some proverbs depends entirely on a knowledge of local customs. The aphorism, "That which destroyed the buck came from its own head," may appear meaningless until we recall the custom of blowing a horn to attract the attention of antelope. If the curiosity of the animals is aroused they will stand still or even approach the sound.

"I caught some fish but lost my bracelet," is quoted when a loss in some transaction exceeds the gain. The saying would be appropriate if a man gave up his occupation and accepted work for lower pay.

In a riddle which asks what object in the hut is like a human life, a certain philosophical trend may be seen. The answer is, "The log that is gradually pushed into the fire." Like a human life, the log is being consumed while it lives. Considerable material for study will

be found in the pages of Gutmann (1909); Lindblom (1935); Meinhof (1911); Schapera (1932a), and Junod and Jaques (1936).

FOLKLORE

Although stories are told for amusement among all Negro tribes, no African tribe, Negro or otherwise, is without mythology, folklore, and fables. These expressions of thought and emotion cannot be regarded as mere diversions. Careful study of story and myth shows historical facts, makes a revelation of ordinarily concealed mental processes and attitudes, and gives evidence of the relation of culture to literary expression. Let us consider a few tales which exemplify some of these points.

Stories most commonly heard among Negroes are those relating to the adventures of animals, and although these may be primarily concerned with quaint humor they bring out clearly several main principles connected with the growth of folklore.

In addition to their agricultural and pastoral pursuits the Ovimbundu retain important elements of a hunting culture. The close observation of animal life which is necessary for successful hunting has resulted in the acquisition of a large and specialized vocabulary relating to nature lore of all kinds. Stories distinguish species of mammals, birds, and reptiles with great precision.

A second point of importance is the didactic nature of stories revealing the results of conceit, cowardice, and selfishness, while extolling the virtues of hospitality, bravery, and modesty. The tortoise constantly plays the part of one who is despised and ignored, yet he frequently proves more than a match for adversaries who underestimated his ability. The hare is symbolical of persons who exercise their wits to the detriment of others, but he overreaches himself and is frequently punished.

The origin of etiological tales may be associated with the operation of curiosity and fear. Naïve stories take the place of natural science and of explanations that are based on the known sequences of causes and effects. As a consequence of differences in the premises of primitive man and of modern science, the respective conclusions are at variance. An excellent series of explanatory myths relating to earthquakes has been published by B. Struck (1908a). These stories clearly show the curiosity of Negroes who desire to explain natural phenomena, and the reasoning applied is in harmony with a general background of beliefs in ancestral spirits who influence the lives of the living.

WHY THE BAT FLIES BY NIGHT

The story of why the bat flies by night is of the simple explanatory type. The tale is widely told in Africa, though local versions differ, for example, in Angola and Nigeria. Yet all the different tribes who use the tale find in it an amusing explanation. Undoubtedly some of the explanations were at one time believed, as, for example, in ancient Egypt, where a dignified mythology explained the origin of the Nile, the rising of the sun, and other natural phenomena. But one does not suppose that African Negroes of today believe implicitly in tales that satisfied their forefathers. We still speak of "the man in the moon," but without any faith in the existence of that interesting person, hero of juvenile stories.

The Ovimbundu say that the child of the Sun was sick. The Bat was an *ocimbanda* (medicine-man), so the Sun sent for him to cure his child. The Bat arrived without delay, effected his cure, and returned home. At the time, the Sun was grateful, but his debt to the Bat was soon forgotten. Presently the son of the Bat fell ill with a sickness for which the Sun was a clever *ocimbanda*. The messengers from the Bat, who asked the Sun for help, arrived after the Sun had arisen. "Go! Tell your master I cannot help anyone after I have started my journey across the sky," he said. The messengers returned, only to find that the young Bat was dead. The Bat declared, "I'll never look at the face of the Sun again," and for this reason he hangs his head downward in a dark place all day.

THE STORY OF THE CRICKET

The story of the cricket which is told in Angola is of the amusing type of animal fables having no didactic, explanatory, or other purpose.

The Cricket was very quiet; he did not talk too much or quarrel with other people. One day he invited several animals to dig in his field and promised that he would give them some beer. The first helper to arrive was the Rooster, who drank a pot of beer. While drinking the beer, the Rooster looked out and saw the Wild Cat coming toward the Cricket's home. The Rooster was so afraid of the Wild Cat that he hid under the bed.

The Wild Cat received a pot of beer, but he had hardly consumed it when he saw the Dog coming toward the house, so he hid under the bed. While the Dog was drinking, he saw the Hyena of whom he was afraid, so he joined the Wild Cat and the Rooster under the bed.

No sooner was the Hyena comfortably settled than he saw a man with a gun approaching, so he disappeared under the bed with the other animals. For a long time the man sat drinking beer and talking to the Cricket; meanwhile the animals under the bed were safe so long as they kept quiet, and they were too frightened to quarrel.

Suddenly a cockroach fell from the ceiling to the floor of the hut, and this so excited the Rooster that he dashed out and gobbled the cockroach. The Wild Cat then forgot that he was hiding and attacked the Rooster. The Dog followed the Wild Cat, and then the Hyena attacked the Dog. There was a terrible noise as the animals fought in the middle of the floor. The Wild Cat killed the Rooster. The Dog killed the Wild Cat. The Hyena killed the Dog, and the man shot the Hyena.

When the Tortoise arrived he was alarmed at the sight of the dead bodies so he sent for the Hare named Kandimba. The Hare dug up the Cricket from the hole where he was hiding, and he was killed by the Hare and the Tortoise, who blamed him for the death of all the animals.

These stories from Angola are excerpts from Hambly (1934a, pp. 248-252) and many others for the same region may be found in Chatelain (1894).

CULTURE HEROES

Some of the most instructive examples of historical mythology occur among western Negroes, for example, the Yoruba of Nigeria. Officials of the royal household orally preserve records of historical events and genealogies, which are handed down for centuries. Consequently, at the present time a combination of fact and fable exists, not merely for amusement but for the welding together of social and religious institutions.

At Ifé in southern Nigeria, I obtained three well-carved wooden masks which are ritual objects linking past events and dead heroes with the present life of the Yoruba. The masks represent Jogbo, Elebiti, and Fopo, about whom are grouped many important historical events, mingled with exaggerated tales of their personal prowess. These wooden masks function annually in a festival known as the Egungun, at which these and other national heroes are supposed to revisit the living. This type of active, functioning mythology is abundant in both Ashanti and Dahomey. A. B. Ellis (1890) relates stories combining historical facts with legends which must be pure invention. The elements relating to wars between Dahomey and Abeokuta are substantially true, but other factors relating to

a python god, who caressed the faltering soldiers with his tail and encouraged them to victory, represent the accretions due to lapse of time and the constant repetition of the story.

The religious system of the Shilluk of the upper Nile is a living example of the energizing power of myth, history, and extant ritual, all of which are brought to bear on the economic life, which centers in pastoral pursuits. Nyakang is now a culture hero who must be regarded as historical, though the period at which he reigned is not known. Tradition states that he did not die, but vanished in a wind, and divine honors are now accorded to him; Nyakang has become a god with whom rainfall, welfare of cattle, and other marks of prosperity are associated (Westermann, 1912; Hofmayr, 1925).

The manner in which mythology is created may be seen by studying the life of Mohammed, a historic person about whom many stories accumulated. Some relate to the Prophet's interviews with the angel Gabriel, who communicated the teachings of the Koran; other stories tell of Mohammed's conquest of *jinn*s and *affrits* (Irving, 1911).

Disentangling the elements of a myth is often an ethnological, psychological, and historical study, but zoological considerations may help in explaining the origin of some tales, especially those relating to serpents (Hambly, 1931a, pp. 68-73).

FOLKLORE AND CULTURE CONTACTS

Some examples of mythology, especially from north and west Africa, give evidence of the combination of two distinct cultural backgrounds, the Negro and the Semitic. The Semitic elements relating to *jinn*s, *bori*, and *affrits* may be studied from the writing of Robertson Smith (1901, pp. 120, 133, 168), and the combination of these traits with those originating among Negroes is observable in stories collated by A. J. N. Tremearne (1914). In "Der schwarze Decameron" (Frobenius, 1910) are tales of the Semitic, Arabian Nights type; but in these occur elements that have originated in the Negro culture of west Africa.

The folklore of the Hoggar Tuareg (Haardt and Dubreuil, 1926) provides another example of the relationship between history, ethnology, and literary expression. The Tuareg are of Hamitic extraction, and much of their cultural history has been associated with that of Semites and Mohammedan Arabs. But Negro slaves have been imported from the Sudan, and their entry into Tuareg society has had both social and literary effects. Tuareg stories relate

on the one hand to *jinn*s, and on the other hand to simple stories of animals and their adventures, such as are told by Negroes. The *jinn*s are usually invisible, but they may appear anywhere at will. On some occasions *jinn*s are the invisible guests at a meal, and they may enter a house to substitute their children for those of mortals. A woman who is loved by a *jinn* will never find satisfaction in the embrace of a mortal man. Negro elements in Tuareg folklore are seen in the story of the lion and the jerboa; and in the tale of the jackal, the goat, and the hyena.

THEORIES ABOUT FOLKLORE

Various theories have been advanced to account for the creation of myths and folklore stories. Occupation and ethnological background, historical events, curiosity, sense of humor, fear arising from disturbing phenomena such as eclipses and earthquakes, have all played a part in the building up of an unwritten literature. Mythology is not always allowed to degenerate into a form of literary amusement, though it tends to do so with the advance of education and scientific knowledge. Yet in Africa at the present time instances can be found of mythology that plays an indispensable part in the social and religious life of a tribe. To some extent myths result from mental processes, sexual and otherwise, in the working of human minds that are functioning at a juvenile level. Incestuous tendencies may find expression in the creation of characters who play a prominent part in stories.

The theory that some tales result from an expression of wishes that cannot be fulfilled contains elements of truth. Suppressed factors may relate to sexual desires, injustices suffered at the hands of powerful persons, and failure to attain wealth or position. The invented story may be a means of escape from the unhappy result of these suppressed elements.

But no one theory will account for all types of stories, and in making analysis of some particular myth or group of myths that conform to a type, all the historical, ethnological, and psychological factors should be considered before a hypothesis is formed. A balanced view of the relative importance of all these factors that govern the creation of literature can be preserved only by considering the theories of several exponents, each of whom is prone to lay too much emphasis on his own explanations.

Among the names of those who have studied folklore, fable, and mythology from different points of view are Marett (1920); Lang

(1897, 1901); Rank (1914), who gives a psychological interpretation of mythology; Ehrenreich (1910), whose theories lean to an ethnological explanation of the contents of mythology; and Freud (1918), whose theories of the suppressed mental content and indirect escape from this suppression have many adherents (chap. VI, *Psychology*). Von Baumann (1936) treated African myths of the creation and origin of men in a valuable contribution to the study of etiological and historical stories. E. W. Smith (1932) refers to African tales told for amusement and for oblique expression, such as satire on important persons, as explanatory of natural phenomena (etiological), and as a means of indirectly forming moral attitudes (see also Rattray, 1928, pp. 1-11).

READING

As further sources of folklore, of which there is now enough for psychological analysis and classification, the following will be found useful. The selections have been made to cover a large area, and in addition to these specific contributions to folklore, a few stories will be found in almost every ethnological monograph mentioned in the bibliography of authors' names.

Two principal contributions to the folklore of the Bushmen are those of W. H. I. Bleek (1864), and of W. H. I. Bleek and L. C. Lloyd (1911). Well known writings on Bantu folklore are those of R. E. Dennett (1898), E. S. Hartland (1914), E. Steere (1906), G. M. Theal (1882), J. Torrend (1921), and A. Werner (1925b, 1933). Semitico-Hamitic folklore may be studied in the works of C. G. Howard (1921), who has produced a book of Shuwa Arabic stories, in two volumes of Hausa folklore by R. S. Rattray (1913), and in a substantial contribution entitled "Wit and Wisdom in Morocco," by Westermarck (1930). The folklore of Sudanic (western) Negroes is presented in the contributions of R. C. Bundy (1919) for Liberia, A. W. Cardinall (1931) for Togoland, E. Dayrell (1910, 1913) for Nigeria, and by R. Prietze (1911) for the mid-western Sudan.

SONGS AND POETRY

Songs, which are often improvised and spontaneous, are an important form of literary expression. Negro carriers, canoe paddlers, and women who take part in village dances are remarkably gifted in making extemporaneous verses to which all respond in choruses. On some occasions the verses are satirical and corrective in their attack on the adulterous, the dishonest, and the greedy. But these legitimate social functions of the songs are at times abused,

for instance, in ridiculing those who are sexually impotent. Men have their war songs, women their refrains which are chanted as they pound grain, and children have ditties appropriate for their games. The value of songs may be considered from three points of view: as social controls (sanctions), as esthetic, and as historical.

The song quoted below, which is an example of esthetic expression, was composed by a Pokomo woman of northeast Africa, when her imagination was aroused by the sight of a fish eagle.

Hear him calling there on the tree
 Flapping his wings and shaking his head!
 A brave and comely bird is he
 With his shining plumes so bright to see.
 As I went down to the river bed
 Bearing my water jar on my head,
 I saw him on the *kurubo* tree.

Another Pokomo composition recorded by Werner refers to the flight of a flock of birds:

Wheel and shine,
 Wheel and shine,
 Bird of mine.
 Over the plains
 My black cranes,
 Fish in the waters
 After the rains.

Hérons also all in a row
 All among the lilies,
 See where they go
 White flowers ablow,
 Blue flowers ablow,
 All in Shaka Babo
 After the rains.

A war song of the Acholi, given by Driberg (1930, p. 38), has some stirring passages and the composition is rich in figures of speech.

We are poured on the enemy like a mighty torrent;
 We are poured like a river in spate when the rain is in the mountains.
 The water hisses down the sands, swirling, exultant,
 And the tree that stood in its path is torn up quivering,
 It is tossed from eddy to eddy.
 We are poured on the enemy and they are bewildered;
 They look this way and that, seeking escape,
 But our spears fall thick about them,
 Our spears cling to their bodies and they are routed.
 They look this way and that for deliverance,
 But they cannot escape us, the avengers, the great killers.

A selection of poetry and songs for comparative study of style, meter, purpose, and latent content should include Rattray (1934) for Hausa poetry, and Haardt (1926) for Tuareg verse. Norton (1918-19) and Seidel (1896) have given information about African

melodies in general. For Negro songs and poetry of west Africa, Witte (1906) has provided examples in Ewe, and Bufe (1914) has an article on poems of Negroes of Duala in Cameroons. As examples of songs and poetry from east Africa Von Hornbostel's (1909) Wanyamwezi songs are important, as are those of Kidney (1920-21) from Nyasaland. As representative of Bantu expression in South Africa, Winter's (1912) "Hymns in Praise of Famous Chiefs" should be read. Norton (1919, pp. 122-137) has analyzed some South African tunes and has transcribed them in tonic sol-fa.

The place of music in the education of children and as a form of social expression is dealt with in more detail in section III, chap. II.

SIGN AND WHISTLING LANGUAGES

In ethnological literature, references to whistling languages in Africa are rare. A. W. Cardinall (1927a, p. 273) describes the way in which a man whistled for his tobacco pipe and told the messenger in whistled tones exactly where the pipe could be found. Cardinall, quoting H. Labouret (1924), states that a whistling language is used by men of Lobi and Builsa. Rattray (1932a, vol. 1, p. 173) mentions a whistling language in the Ashanti hinterland.

Most Negro tribes have some form of sign language which they use for expressing numbers that are indicated by various positions of the fingers. Gestures to denote anger and contempt are common, while certain actions are used to communicate with deaf persons.

Hand signs to express number among the Ovimbundu are typical of similar systems among Bantu and Sudanic Negroes. The numbers from two to ten are shown as follows: (2) Turn the little finger and the one next to it into the palm. (3) Turn three fingers into the palm. (4) Turn four fingers into the palm. (5) Turn four fingers of the left hand into the palm, then tap the left thumb with the index finger of the right hand. (6) Extend the left hand and place the little finger of the right hand on the thumb of the extended left hand; this action adds one to five. (7) Proceed as for the number six, but touch the thumb with the little finger and the next one to it. (8) Place the little finger, the third finger, and the middle finger on the thumb of the extended left hand; this adds three to five. (9) Lay four fingers of the right hand on the thumb of the left hand. (10) Clap hands.

An insulting sign is made by holding up the left arm with the fist closed, while the left wrist is grasped with the right hand, and

the left hand is shaken. My interpreter said, "This is done when a man is so angry that he can't find words." Bending forward the head and protruding the tongue means, "You're a fool." If the right hand is shaken in front of the face with the index finger extended, a negative is implied. A nod of the head is affirmative. Drawing the index finger of the right hand across the mouth signifies completion, and rubbing the palms quickly has the same significance. "Go away" is signaled by extending an arm and flipping the fingers outward. To say "Come here" a scratching motion of the fingers would be made with the arm extended.

DRAMA

Among Negroes of Africa as a whole, stage entertainment is not well developed as a form of dramatic art. But among the Mandingo, the Hausa, and the Ibibio the public is entertained by marionettes, and the Mandingo have plays of a type that constitute a legitimate stage.

The Mandingo stage play as described by H. Labouret and M. Travélé (1928) is performed by a troupe which gives a ballet overture, a prologue, and a presentation of the artists, followed by a comedy of intrigue that involves humor, satire, and sarcasm. Labouret states that marionette shows were probably brought into west Africa from the north by caravans. In the year 1878, P. Soleillet saw a marionette show performed near Segou on the Niger, and Labouret states that Hausa showmen usually give marionette entertainments at Mohammedan festivals.

P. A. Talbot (1923, pp. 72-86) describes marionette plays among the Ibibio of Nigeria, who have carved wooden dolls worked by men who hide behind a blanket screen. The dolls are supposed to be a mystery to women, who are not allowed to know the cause of the puppets' movements. Women are also supposed to be ignorant of the fact that ventriloquism accounts for the speech of the dolls. Talbot states that in former days these secrets were so jealously guarded that a performing troupe which inadvertently exposed the mechanisms of the marionettes was slain. The spectators who were responsible for the murderous attack were outraged by the revelation of these secrets to women.

The Akan play performed by Ibibio showmen was one in which twenty wooden puppets took part. The manipulators and ventriloquists were concealed behind a screen of blankets. An element of magic was introduced, for, "as each fresh mannikin appeared a

black cock was lifted up to touch it in order, so it was explained, to confer on the puppet the power of speech and movement."

The puppets departed, with the exception of a father and his daughter-in-law. Talbot states, "The latter was dressed in a scanty garb of beads and bells, supplemented by only a dark green cloth, well above the waist line. In spite of a flirtatious manner and provocative air, the person described above, after regarding the male performer in silence for some seconds, addressed him in a tone of reproof. 'Why,' she said, 'do you excite yourself? I know that I am beautiful but you must remember that I am not your wife.'"

Dr. B. Laufer (1923) states that in the third century of our era story-tellers recited in the public squares of Chinese towns, and their narratives were illustrated by transparencies. In this way arose the shadow plays that spread among Persians, Arabs, and Turks, then finally to western Europe. The first literary mention of marionettes was made about A.D. 630, at which time Turkestan swarmed with jugglers, mimes, and actors; and there is evidence to show that these performers knew the use of puppets. Figures of marionettes have been found during archaeological excavations on ancient sites in Egypt, Greece, and Rome. For Africa, Spies (1928) has described the shadow plays of Tunisia, and D. Alexander (1910) gives a brief note on a Punch and Judy show in Bornu.

SYMBOLIC MESSAGES AND DRUM LANGUAGE

The Yoruba of Nigeria formerly used an elaborate system of messages. These were expressed by the use of cowrie shells combined with a variety of small objects, each of which had a symbolic meaning. One cowrie shell with a small hole at the back meant defiance. Two cowrie shells fastened face to face had the meaning, "I want to see you," but if the two shells were placed back to back, the message read, "Go away and stay away."

The powerful Ogboni league, which still functions, used cowrie shells as symbols whose meanings were known only to the members of the league. Up to forty cowries the meaning depended on the number of shells used, the method of stringing, and the nature of the objects placed between the shells.

A piece of charcoal meant that, as the substance was black, the prospects of the sender were gloomy. In the year 1852, when the Dahomeans captured Abeokuta, a Yoruban prisoner sent his friends a message in the form of a piece of wood such as Negroes use for cleaning their teeth. This message had the interpretation, "As I remember my teeth in the early morning, and during the day, so I

remember you as soon as I get up, and often afterwards." (Bloxam, 1886; Gollmer, 1884.)

A kola nut means welcome and peace, with good health. A morsel of sugar sent as a message means, "There is no enmity between us." In Dahomey a gift of parrots' eggs to the king was an invitation for him to resign, since his powers were felt to be inadequate for sustaining the vitality of the state. Carved wooden sticks and ornamental paddles have been used by many Negro tribes as symbols of authority to be carried by messengers.

Among Negroes two main types of drums are used for transmitting messages. The cylindrical drum, hollowed from a log and provided with one or more rectangular slits at the top, is used by Sudanic and Bantu Negroes. This drum has no membrane and is best described as a signaling drum (R. T. Clarke, 1934, p. 34).

Talking drums, male and female, provided with membranes, are of less frequent occurrence, and the best examples of the type are to be found in Ashanti (Rattray, 1923, Figs. 101-102) and in Togoland (Witte, 1910). Elaborate ritual is observed when wood and membranes are obtained for the drums used in Ashanti, and whenever the drums are used a preliminary rite is necessary to invite the spirit of the tree whose wood was used, and the spirit of the elephant whose ear was made into a tympanum, to enter the drum. The language conveyed by these drums is of the Sudanic family in which different tones alter the dictionary meaning of words that are otherwise alike. The phonographic records taken by R. S. Rattray (1923, pp. 242-286) indicate that the sounds transmitted are divided into groups of tones with clearly defined stops at intervals of varying length. Rattray's simplest description of the drum language is contained in a brief article (1922-23). A. N. Tucker (1936) has described "African Alphabets and the Telegraph Sytem."

Transmission gives the tones, the number of syllables, and the punctuation, but the vowels and the individual consonants cannot be transmitted. Drummers make use of holophrases which are familiar to both senders and receivers. There are holophrases for a declaration of war, an outbreak of fire, and the approach of Europeans. In Liberia drum talking of this kind is used, and in Nigeria the Yoruba have drummers in the royal compound. When the king rises in the morning the drums announce the fact, and when the king is ready to leave his palace another holophrase is sounded.

Exaggerated accounts have been given of the distance that messages can be sent. Undoubtedly messages can be heard several

miles away under favorable atmospheric conditions, but even though the message is relayed it must soon come to a borderline where a language differing from the one in which the message originated is spoken. The holophrases are conventions that are understood in a limited area, and tonal languages differ so much that the sounds used for first transmission and subsequent relays would have no meaning when picked up by people speaking another language.

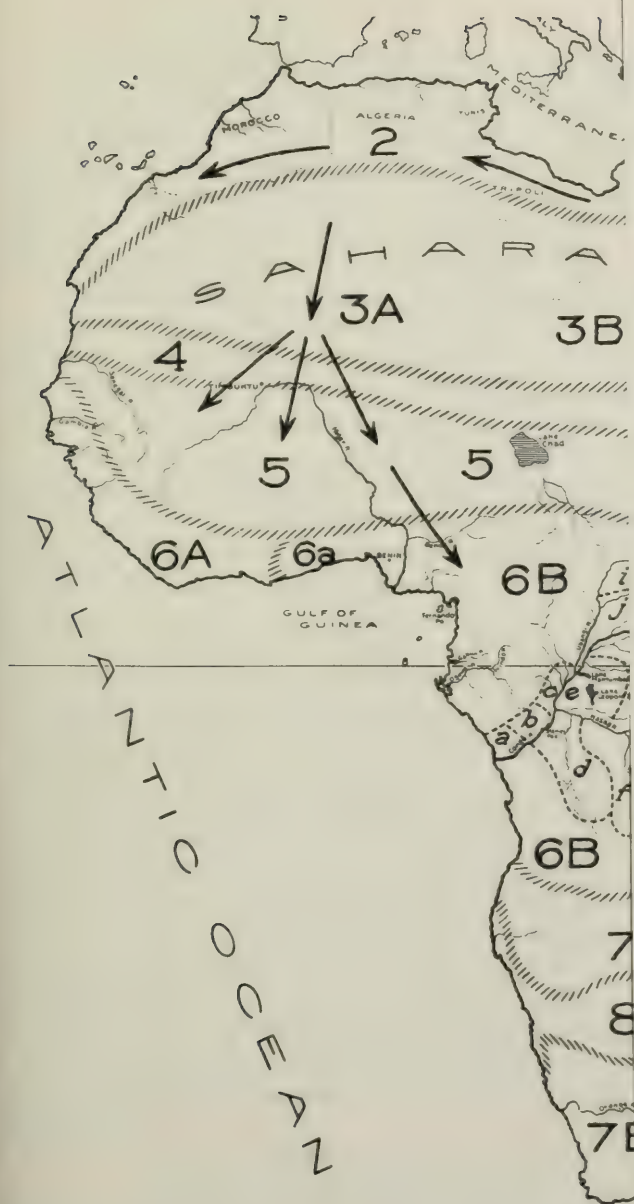
FIELD RECORDS

Perusal of C. M. Doke's "A Comparative Study in Shona Phonetics" shows that investigation of linguistic problems is the work of specialists, who are aided by delicate instruments in addition to specially constructed phonographs, or dictaphones. Apparatus is used for studying the function of the lips, palate, tongue, pharynx, throat, epiglottis, and larynx. To analyze the sounds of Shona dialects, Doke used vulcanite palates which are too thin to interfere with normal pronunciation. The palates are dusted with powder, and the marks (palatograms) made by the speaker's tongue are examined. For studying throat movements X-rays have been used.

But without elaborate apparatus an investigator may accomplish useful work in field research by following the instructions contained in a "Short Guide to the Recording of African Languages," published by the International Institute of African Languages and Cultures. The Guide begins with a brief outline of phonetic symbols and conducts the inquiry by giving lists of key words and phrases, with blanks to be filled by the investigator. Even if unqualified as a linguist, a student can readily learn the use of a dictaphone for recording, and, given a little practice in technique by an expert, he will be able to bring home records of language and music that can be transcribed by specialists. But for really competent investigation the observer should have a natural aptitude and a trained ear, and should as a minimum be familiar with the theory and practice of phonetics as expounded by D. Westermann and I. C. Ward (1933). I. C. Ward (1937) has published a pamphlet of "Practical Suggestions for the Learning of an African Language in the Field."

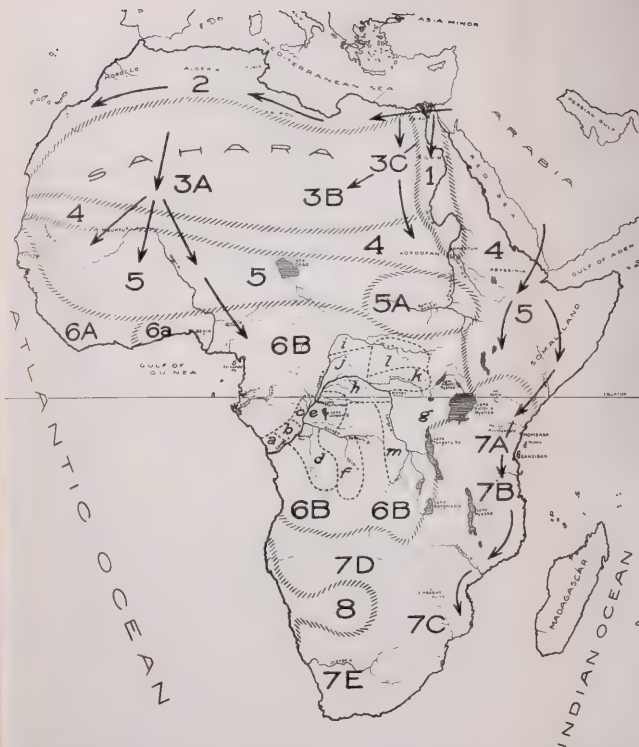
The amount of field work to be done is so extensive that one fails to see how the task can be accomplished by specialists only; they are so few in number. The quality of the records is far more important than the quantity. Yet interested administrators, teachers, and missionaries, willing to take short courses in phonetics and the use of recording instruments, might supply the data which after laboratory analysis would clarify the linguistic problems now unsolved.

SECTION II: THE CULTURE AREA CONCEPT



MAP 4. Culture areas shown approximately by shaded Mohammedan influence.

Scale: 1 inch = 88



MAP 4. Culture areas shown approximately by shaded boundaries and broken lines. Arrows indicate Mohammedan influence.

Scale: 1 inch=880 miles.

I. TOPOGRAPHY AND CULTURE

Map 2, showing division of Africa into zones of desert, forest, parkland, and intermediate types of surface, should be compared with Map 4, illustrating the distribution of modes of life. No difficulty will be experienced in understanding these culture areas, since their demarcation depends primarily on all the geographical facts that control human, animal, and plant life.

In each of the zones described, an impressive cultural homogeneity prevails, but the margins of typical cultures are not clearly defined, and each useful trait tends to extend itself so far as conditions permit. Within each cultural zone somatic and linguistic differences occur, and the characteristic culture itself has local variations.

Division of Africa into cultural zones was first attempted by A. de Préville, and his scheme was prepared to show causal relation between environment, products, and modes of life. De Préville (1894) considers the different regions occupied by camel keepers, pastoral tribes, and agriculturalists, who produce maize, durra, rice, bananas, or other crops according to local climatic conditions. Dowd (1907) applied and misapplied the teaching of De Préville. Dowd made some extremely broad generalizations concerning correlation between food and mental attributes. One would be led to believe that bananas engender a pusillanimous spirit, but a diet of millet fosters courage. That warlike tribes inhabited the millet zone is true, but the diet was not to blame. Many of those tribes are of Hamitic extraction, having a predatory military organization. Moreover, military expeditions are encouraged by the type of open country which favors the cultivation of millet. R. Thurnwald (1929) and M. J. Herskovits (1926, 1930b) have followed the lead of De Préville in dividing Africa into cultural zones, but with somewhat different divisions and with additional explanations of the ethnological data involved in the scheme. Map 4 combines the schemes of these authors but makes additions and modifications. I have preferred to show the indefinite nature of boundaries by shading rather than straight lines.

EXPLANATION OF MAP 4

Area 1.—The Nile Valley, in which a highly specialized civilization was built up on a basis of Hamitic and Semitic culture. The civilization was affected by Persian, Greek, Roman, and Arab conquests.

Area 2.—A region of migration of northern Hamites. Some of these were named Libyans, and later the name Berbers was given.

Into this region, Phoenician, Egyptian, Greek, Roman, and Mohammedan-Arab influences have penetrated. Cultural traits from area (2) have affected regions (3), (4), (5) and have extended into area (6A).

Area 3.—The Saharan region of camel-keeping cultures is divisible on the grounds of physique, languages, and minor cultural differences, into (3A), Tuareg; (3B) Tebu Tibbu and Teda of Tibesti; (3C) Arabs of the Libyan oases.

Area 4.—A region of pastoral nomads possessing cattle, sheep, goats, horses, and perhaps camels also. Semitic and Mohammedan traits prevail. At the eastern end of the area the Kababish are a tribe whose culture shows a linkage between true Saharan culture and that of grassland steppes where cattle are reared.

Area 5.—Parkland area uniting semi-desert country (4) with forest country (6A and 6B). The region is pastoral, but seasonal migrations are made to keep in touch with the rainfall. Horses are used, and formerly they were extensively employed in warfare. Camels are used seasonally for transport, but the area is not one in which breeding camels and organizing long-distance caravans are fundamentally important. Region 5A contains Nilotic Negro tribes of the true cattle culture; compare with area 7A.

Areas 6A, 6B.—These are forest regions of Negro culture. The areas have many important cultural traits in common, but somatic, linguistic, and cultural differences are important. Area 6A is inhabited by Sudanic-speaking Negroes, and area 6B by Bantu-speaking Negroes. Area 6B includes groups of Pygmies who have a type of hunting culture. These Pygmies live in a state of social and economic symbiosis with Negroes.

Region 6A includes Ashanti, Dahomey, and southern Nigeria where there is a specialized development of religion, art, and social organization differing from the general pattern of Negro culture. The course of the Congo may be divided into thirteen minor regions: (a) Maritime; (b) Cataracts; (c) Stanley Pool; (d) Kwango; (e) Lake Leopold; (f) Kasai; (g) Eastern Region; (h) Equatorial; (i) Haut-Ubangi; (j) Bangala; (k) Aruwimi; (l) Welle (Uelle); (m) Lomami-Lualaba. This scheme is given (with no author's name) in periodical AMCB, Series III, Tome I, Fasc. I, p. 4. The classification is that on which ethnographical collections are arranged in the Musée Congo Belge, Tervueren. Presumably this classification is based on differences in material culture, but doubtless these are accompanied by other and more important distinctions.

Area 7.—This area has many cultural patterns whose predominating trait is the breeding of cattle, which are important in religious belief and custom, in social structure, and in economic usage. Agriculture is sometimes carried out by a class of people who are regarded as socially inferior to the aristocratic Hamitic population, which is pastoral to the exclusion of agriculture and industrialism. Regions 7B–7D are extensions of the typical cattle zone 7A, but agriculture without social stigma of those who till the soil, becomes important, and in some regions, for example, in central Angola, agriculture is primary and keeping cattle is secondary. Area 5A is a highly specialized center of the pastoral culture.

Area 8.—The Kalahari Desert is the home of Bushman tribes having a type of culture in which hunting is the dominating factor. Agriculture is not practiced, and no domestic animals except the dog are kept. Development of handicrafts, social organization, and religious institutions are elementary. Most of the activities have to be concentrated on obtaining food and water.

The arrows indicate a strong overlap of Mohammedan religion and its accessory traits along north Africa, across the Sahara into Negro west Africa and northern Cameroons. The Mohammedan complex of traits affects the whole of the Nile Valley, Kordofan, Abyssinia, Somaliland, and the east coast southward to Lourenço Marques.

In view of the criticisms that have been advanced against a study of culture zones (Carter A. Woods, 1934) one cannot too strongly emphasize the factor of miscegenation. A culture area scheme is chiefly useful as a preliminary sifting and grouping of data.

There are areas of concentration for camel-keeping, cattle-raising, agriculture, and hunting, but each major factor tends to peter out and to become mingled with others. Then, superimposed on several types of culture is a widely spread Mohammedan influence, varying greatly in intensity from one region to another. Hambly has analyzed the culture areas of Nigeria (1935a) and of Angola (1934a), and Herskovits (1926) has dealt in this way with the pastoral culture. But too many ethnographers lose sight of regional grouping and merely present unconnected factual material.

Subvarieties of Negro culture could be further defined by a rearrangement of the data in Spencer (1930, Editor, E. Torday). The "Descriptive Sociology of African Races" has a wealth of material, but the arrangement is not in accordance with modern ethnological

method. A helpful memorandum in the study of cultural mixture is that prepared by Redfield, Linton, and Herskovits (1935). The scheme is too condensed to allow of summarizing, but a student will find there many helpful suggestions for the analysis of cultures, and for study of the social and psychological processes involved in what the authors call "acculturation"; an alternative term would be "cultural adjustment."

A warning should be given against the assumption that study of a culture area consists mainly of enumerating the characteristic traits. The prevailing traits, and exchanges of these with traits from other areas are important, but the subject should be regarded from the social and psychological point of view, as in Benedict's "Patterns of Culture" and Mead's "Sex and Temperament in Three Primitive Societies." The aim should be to give what Durkheim called the "superorganic." Perhaps a better term is the "ethos," meaning the dynamic or driving force; the character, sentiment, and disposition of a community, the spirit which actuates moral codes, ideals, attitudes, magic, and religion. The ethos may be the Mohammedan religion, cattle and rain-making, or agriculture with fertility rites and other ritual. But no matter what the focus may be, this pivotal point must be understood; then all subsidiary factors fall into line.

The following chapters explain the main types of culture, the ethos and subsidiary traits of each area, also the mixtures which have occurred.

II. HUNTING CULTURES

BUSHMEN

Present-day Bushman hunters of the Kalahari Desert are but a fragment of the numerous Bushman tribes which extended over the region south of the River Zambezi a few centuries ago. This gradual restriction of habitat has resulted from the aggression of British and Dutch settlers, and an intermingling of Bushman tribes with Bantu Negro neighbors.

The Kalahari Desert, having an area of 140,000 square miles, is not the barren expanse that has sometimes been pictured by those who have crossed in the dry season. Lack of moisture is the prevailing characteristic, and there are large areas of sand dunes, some of which attain a hundred feet in height; yet many depressions exist, and grass flourishes in these hollows where water may be obtained long after the season of rains has ended. In the Lake Ngami region and in the Okavango marshland game thrives.

Bushman paintings and rock engravings testify to a varied supply of animal life. Among big game are kudu, wildebeest, buffalo, zebra, and elephant. These are not all generally distributed, but each has a peculiar locality and season which is known to the nomadic hunters.

Bushmen rely for food, not only on big game, but on many forms of small animal life, such as snakes, geckos, termites, and locusts. Honey, various kinds of larvae, and edible roots also contribute to the regular diet. After the rains acacias attain a size sufficiently large to shelter game, and baobab trees (Fig. 7) harbor water in their spongy tissues (Verdoorn, 1933). Schultze (1907) gives an excellent description and pictorial survey of the Kalahari.

The range of temperature from day to night is a wide one, from 120° or more in the sun almost to freezing point in the hours of early morning. Rain falls chiefly in October and November, with heavy precipitations, after which there is a long drought of ten months. Fitzgerald (1934, pp. 170-176) gives the rainfall as varying from 5 to 29 inches according to locality. The climatic conditions, therefore, necessitate constant trekking to keep in touch with game and water. In the driest part of the season, tribes break up into small family groups of not more than six persons as a rule. A separation of this kind aids the location of food and water and therefore increases the chance of survival.

Habits of life have to accommodate themselves to environmental conditions, and among Bushman hunters mobility is a primary necessity. But in former years, when game was more plentiful and no pressure was exerted by white settlers, Bushman life may have been more sedentary. At one time tribes living in the south and east made use of caves and rock shelters, in which wall paintings and stone implements still testify to the development of a stone-age culture and an advanced technique in art (chap. III, Prehistory).

In accordance with the requirements of nomadic life, shelters are usually of a temporary kind. At present, the Namib build homes of brushwood and bark whenever they camp for more than two days. This work is relegated to women, who erect the shelters a few miles from water holes, so that game will not be disturbed. The Naron (D. F. Bleek, 1928) build semicircular huts in the wet season, but are content with lighter buildings of sticks and grass when trekking. Reference to the works quoted will call attention to the cultural differences of various Bushman tribes, yet there is sufficient uniformity of essential elements to warrant a general description of the modes of life.

MATERIAL CULTURE

Garments of skin are simple and scanty, but complete nudity is rarely seen. The usual dress for a male consists of a triangular piece of hide, two corners of which are made fast by a string about his waist while the third corner is passed between his legs and fastened to the waist string (Fig. 62). In addition to this pubic covering he may have a skin cloak (*kaross*) suspended from his right shoulder. A skin bag rests on his left hip, so providing a handy container for food, fire-sticks, and tobacco pipe. The covering of a woman includes a small skin apron that hangs from a belt; beadwork ornament is the usual form of decoration for females (Fig. 47). Perhaps the equipment includes a *kaross*, which forms a pouch for an infant when the garment is tied at the waist, and the fold of the garment may also contain ostrich eggshells for holding water, edible roots, firewood, and dry grass.

Strings of ostrich eggshell beads manufactured by women are the most valuable personal ornaments. Small pieces of eggshell are softened in water, pierced with a borer of iron or stone, threaded on sinew, and chipped to remove rough edges. Finally the beads are rubbed smooth with a soft stone, then they are threaded to make head-bands, girdles, and waist-strings. Both sexes wear arm- and leg-bands of leather (see bead forehead band, Fig. 47).

As a rule supplies of water are insufficient for washing the body; therefore, a smearing of fat is given, and this is followed by a dusting with *buchu* powder, which is made by pounding vegetable matter.

Bushmen have excelled in pictorial art (chap. III, Prehistory) but little time is now spent on esthetic expression, and an inventory of personal possessions, all of a simple kind, is therefore brief. Each woman has a digging stick tipped with horn and weighted with



FIG. 62. Bushman kneeling to shoot, Koatwe Pan, Kalahari Desert (from photograph by Arthur S. Vernay, copyright).

a perforated round stone. With this implement she digs up wild roots and edible bulbs, since agriculture is not practiced.

Wood fiber is twisted into cord for making snares and string bags, while the wood itself is manufactured into vessels, pestles, and mortars for the pounding and preserving of vegetable food. Fiber is also used in making mats for sifting ants' eggs. Water is generally carried in ostrich eggs some of which are engraved, but if these are not available the stomach of an animal will serve the purpose. Skins of animals are made into cloaks, loin coverings, sandals, caps, and bags. The carapace of a tortoise is often used as a spoon or scoop, and there appears to be no object or material too insignificant

for a useful purpose. Hammer-stones of rounded form are used for pounding seeds, and pointed borers of stone serve for perforating eggshells and engraving ostrich eggs.

Smoking of tobacco, which is usual among men, women, and even children, calls for some ingenuity in making the equipment. Tribes of the northwest Kalahari make tobacco pipes of serpentine stone, and the Cape Bushmen used a water-pipe for smoking a mixture of tobacco and hemp. The pipe consists of a horn perforated at the tip, which is the mouthpiece, while the wide end is plugged with clay; from the side of the pipe a tube projects, ending in a stone bowl. The horn is filled with water; consequently, when the smoker sucks the pointed end of the horn he draws the smoke from the bowl through the water in the horn. Pipes and pipe bowls of serpentine are fashioned with a stone drill, or with the point of a knife or spear. Hiechware Bushmen practice ground-smoking, for which they prepare by making a hole for the tobacco which is covered with a dome of clay. From this bowl a narrow tunnel is made. The smoker has to lie prone to apply his lips to the tunnel leading from the tobacco (Laufer, Hambly, and Linton, 1930, Plate V, Fig. 2). The only Bushmen who know how to make intoxicating drink are the Namibs, who prepare liquor from honey, but drunkenness among Bushmen is said to be exceptional.

Owing to the simplicity of life in Bushman tribes, division of labor cannot be so highly specialized as among more advanced tribes which have developed arts and industries to a high degree. Bushman males are hunters and preparers of hides. They are responsible for making weapons and fire-sticks, one of which is twirled on the other to produce fire by friction.

Women build shelters, gather wild vegetable produce, fill ostrich eggshells with water, collect firewood, cook, care for children, and make their own personal ornaments. Some men and women are more skillful than others, but all understand these tasks, and specialization is primarily on a sex basis and not according to special aptitudes or hereditary right, as among some Negro tribes.

Iron is neither smelted nor forged, but iron tips for arrows are procured from neighboring Bantu Negroes and Hottentots. In time past the Cape Bushmen, also some Hottentots, made pottery (Laidler, 1929), but this is now a lost art. Some Bushmen may be seen with spears and throwing clubs, but these weapons have been obtained from Negro neighbors. Acquisition of objects such as weapons and pottery is not the only instance of adoption of elements from another

culture. Bushmen, who circumcise their boys and practice clitoridectomy on their girls, as do the Hiechware, have borrowed the rites from Bantu Negro neighbors.

If possible, Bushmen practice fishing, and for this purpose they make funnel-shaped traps of reeds, weirs, and stone dams. In the Okavango basin live Bushmen who use boats and spears for fishing, but these are special local developments that are not characteristic of Bushmen in general. Most Bushman tribes have to combat a deficiency of water by filling ostrich eggshells and caching them, or by sucking moisture from the ground through a reed, the lower end of which is plugged with grass to prevent the entry of sand. Fig. 63 is an excellent illustration of Bushman women filling ostrich eggshells at a pool.

The shafts of bows, which are short and round in cross section, are usually bound with sinew, and two strands of the same substance are twisted together to form a bowstring. Arrows vary considerably in different localities but the following are well-known types. The simplest arrows are made from hollow reeds about fifteen inches long and notched for reception of the bowstring. The arrowhead is made of wood or bone from the leg of an ostrich. Arrow-tips, which may be of stone, bone, glass, or iron, are inserted into hollow shafts from which they readily become detached on entering an animal. The northern Kung and the Heikum feather the wooden shafts of their arrows. Schapera (1927a) and Logie (1935) have given descriptions and classifications of Bushman bows and arrows.

Poison is smeared on arrow-points, or, in the instance of flat bone arrowheads, it is dabbed in spots over the surface. For killing game, reliance is placed on the poison and not on the severity of the wound. Poison is prepared from substances derived from both vegetable and animal sources; thus, the juice of euphorbias, the venom of the puff-adder, and the crushed bodies of trap-door spiders are ingredients. These substances are used according to locality, but the resulting poison is generally a thick brown paste that is liberally smeared on the point and its junction with the arrow-shaft. After a quantity of the poison has been prepared by allowing it to simmer in a tortoise shell, a portion is at once applied to the arrow-tips, and the remainder is carried in a skin bag.

A wounded animal may travel as much as forty miles before succumbing to the effects of the poison, but the hunter follows untiringly until he comes up with his quarry. Sometimes game is captured by running it down in open chase, or animals may be pursued by a

hunter disguised after the manner shown in Bushman paintings. Disguise of this kind is aided by the hunter's skill in making the calls of animals, and in imitating the cries of birds to arouse the curiosity of the quarry. The Naron hunt the jackal, leopard, lynx, hare, and small buck, with dogs. In the southern Kalahari, pits with pointed stakes at their bases are dug, and toward these traps animals are driven through a gap in a fence. The Namib fence a spring to prevent animals from drinking there; then a channel of water is made to flow to a pit that is poisoned with branches of euphorbia, a poison to which zebras are said to be especially susceptible.

In the dry season, snares are made in the form of cords with running nooses. To prepare such a trap one end of the cord is made fast to a bent sapling, while the bait is so arranged that in seizing it the animal is caught in the noose, which tightens as the sapling springs upward. Fall-traps are made so that interference with the bait releases a heavy stone.

Success in hunting is not thought to depend entirely on the prowess of the hunter; on the contrary, charms are used to ensure good luck in the chase. Some of these are permanently carried in the form of cuts on the arms, cheeks, or belly of the hunter. These incisions are usually made soon after a boy begins to hunt, and the instance of rubbing a wound with the flesh of a springbok to give the swiftness of that animal to the hunter is an example of contagious magic. The shadow of a hunter should not be allowed to fall on dying game, and when in pursuit of an animal a hunter must eat the flesh of a creature that moves slowly, for to consume the flesh of a swift animal would give speed to the quarry.

Collection of wild vegetable produce, a task in which men sometimes assist, is not without ritual observances. The Heikum Bushmen have a ceremony of the first fruits at which fire is made and food is consumed in ritual fashion. Once a year at the beginning of the rainy season, when edible plants are expected to appear, the !Kung pray to Huwe, a supernatural being, saying, "Father, I come to you, I pray to you, please give me food and all things, that I may live."

SOCIAL AND RELIGIOUS LIFE

Music and dancing should not be regarded solely as amusements. Some dances are primarily social functions, but, on the contrary, other dances are of a ritual kind; for example those connected with hunting may have a magical significance for increasing the supply of



FIG. 63. Bushwomen, Gomodino Pan, Kalahari Desert, filling ostrich eggshells with water (from photograph by Arthur S. Vernay, copyright).

game, and some rock paintings suggest that in former times dancing and magical rites existed for this purpose.

Professional musicians are unknown, though some men are more skilled than others. Musical instruments are of a simple kind. A skin stretched over a calabash or across a tortoise shell may serve as a drum. Southern tribes play reed pipes to accompany their dances, and in several localities the musical bow and the goura are used. The former is an ordinary bow to the string of which a gourd is attached, so that when pressed against the body of the musician the gourd acts as a resonator and amplifies the sound made by plucking or tapping the bowstring. The goura is also a bow having at the end of the stave a flexible quill that the performer causes to vibrate by his strong inspirations and expirations.

Social organization and religion are not so easy to study as the material factors. In no Bushman tribe is there a complex tribal organization with a supreme governing body or person having legislative and judicial functions. Each tribe is a mobile and divisible unit consisting of an indefinite number of hunting bands, each of which splits up into small family groups who wander independently but later rejoin their main units. A hunting band probably contains about fifty persons. The leader of such a band holds his position in a non-elective and informal way as a result of prowess in the chase or success in combat with a rival band. In the northwest Kalahari, each band has, in addition to a leader who is spontaneously chosen, a formal chief whose office is hereditary, and though his authority may be slight in everyday life he regulates movements of his band and leads in war.

The hunting territory of each band and the tribe formed by these bands are defined by natural features. A row of dunes, a water-hole, or a tree may serve as a boundary mark, and within the confines of its own territory a hunting band has exclusive rights to the game and water, together with wild vegetable produce. The infringement of hunting rights is a main cause of conflict.

Within a family there is a permanent relation of husband and wife with their unmarried children, and these persons usually constitute a traveling unit, especially in the dry season when the band has divided. The Bushman system of kinship is imperfectly known.

Laws relating to hunting rights, private ownership of property, and possession of a wife are well defined. A man who finds a nest of ostrich eggs marks the site with his arrow, and leaves the spot with the intention of returning when the clutch is complete. The

original finder would kill a man who robbed him, and with this object in view he would track the thief for a long distance. This personal revenge would be regarded as normal, but the relatives of the murdered thief would probably seek reprisal, and so a blood-feud would begin. Communal feeling respecting ownership of game, water, and wild produce does not extend outside a hunting group, and within the group itself common ownership is subordinated to a sense of individual possession of food, weapons, ornaments, clothing, and utensils.

Obedience to customary law depends on conformity to precedents, since no formal codes exist. A father is the legal head of his family and in that capacity has rights of punishment. Among the Namib the eldest son becomes head of the family after the death of his father, and where tribal chieftainship exists succession to office descends to the eldest son. The available information, though inadequate, suggests that Bushman tribes generally favor succession in the male line. There is little property to dispose of, and the few personal possessions are generally buried with the dead. Burial rites have formed the subject of an article by Seyffert (1913).

Formalities of courtship are observed among some tribes, who require a suitor to make presents to his future mother-in-law. During the year before his marriage he gives her game, skins, and beads. At marriage the groom provides his wife with a fur cloak, items of leather clothing, and bead ornaments. Among the Heikum Bushmen, parents say, "We are poor and cannot afford to give our daughter away." This message is carried to the suitor by a friend who has been delegated to make the first approach.

The lover himself then sits near the hut of his prospective bride and calls to her mother, "I want your daughter." Again the protest of poverty is heard. The suitor calls, "If you die, I will bury you." Should the mother agree to the match, she takes the bow and arrows of the suitor and places them in her daughter's hut. If the girl fails to come to this hut within three days, her mother is expected to compel her to do so because acceptance of the weapons ratified a contract (Fourie, 1928, pp. 81-104).

After consummation of the marriage the husband lives for several months with his wife's kin, but later he builds a hut among his own kin, and there he takes his wife. The marriage is first matrilocal, then patrilocal. Sometimes the wife's kin make a show of resistance when the groom prepares to take his bride away. The interference appears to be a formal and ritual protest against depriving the

wife's kindred of a woman who is a potential bearer of children, and therefore a tribal asset. Among tribes of the northwest Kalahari a woman returns to the home of her parents for her first confinement. Possibly these examples indicate a former matrilocal condition under which a woman and her children resided permanently with the maternal kin. If adultery occurs, an aggrieved husband is allowed to kill the seducer and to beat his wife, but he may not inflict the death penalty on her. Women of the Heikum practice abortion if unmarried, and children born out of wedlock are buried alive. The period of lactation is about three years. Polygyny is permissible, but among tribes who live for a great part of the year on the margin of subsistence plurality of wives is unusual.

Religious beliefs are difficult to investigate, and valuable opportunities were lost before ethnological interest was aroused, yet several writers have been able to give at least an outline of spiritual concepts and their expression by prayer and ritual. Lebzelter (1928), and P. W. Schmidt (1929) have dealt specifically with Bushman religion in short articles. Religious thought of the Cape Bushmen centered in reverence for celestial bodies, especially the moon. A crescent moon and certain stars were asked for food:

O star coming there,
Let me see a springbok;
O star coming there,
Let me dig out ants' food.

Stars are thought to have been animals and people far back in the history of the Bushman race. In the northern Kalahari the Naron and the Auen still worship the moon, who is regarded as an old man having a wife, the sun (D. F. Bleek, 1929). In mythology the mantis is the most important symbol, and he is personified as a man who has a wife and three children. This mantis being is able to transform himself into the shapes of other creatures. He may be killed yet comes to life again. The mantis is a creator, a giver of rain, and a dispenser of good luck in hunting. He protects his people from illness and disaster (D. F. Bleek, 1923).

Offering of first fruits which are ceremonially eaten at the beginning of the rains, and creation of sacred fire by use of a twirling stick, are possibly imported rites. The former is usual among agricultural Negroes, both Sudanic and Bantu, while the latter rite is one of the main features of ritual associated with cattle. Use of the sacred fire is widely known among pastoral tribes of east, south, and South West Africa (Eiselen, 1929).

Magical ceremonies are of importance in connection with rain-making. Among the Cape Bushmen male or female rain-makers went out to catch the rain bull, which was then led over the land to produce rain. Some magicians could transform themselves into animals, and others were able to cause illness by shooting invisible arrows. The Naron medicine-men are said to shoot arrows of this kind, which kill their victims by magic and not by physical injury. The employment of little bows of bone which are used by the north-western Bushmen is not well understood. The bow carried by them is only a few inches in length, and the arrows are thorns. Some magical significance of this miniature weapon is probable. In some tribes the power of a medicine-man is thought to continue after his death, and to such a spirit prayers for rain and success in hunting are offered.

A few persons who do not claim to be medicine-men among the Cape Bushmen assert that they have a "beating of the flesh" which acts as a warning of impending events. From this sensation they profess to be able to announce the arrival of strangers or to say what route should be followed to find those who are lost. Beyond doubt magical practices are general, but the information does not warrant classification of medicine-men according to their functions. There is some evidence to indicate that certain medicine-men specialize in curing the sick, but most of the medicine-men appear to be general practitioners.

A medicine-man when treating a patient sucks the affected part, gives massage, and pretends to remove a small stone which he spits from his mouth. Treatment of the sick is sometimes carried out with juices that have been extracted from plants by boiling. The juices may be drunk or rubbed into cuts on the patient's body. A medicine-man of the Auen attempts the cure of snake-bite by sucking the wound and rubbing it with a powder prepared from pulverized gall, liver, and poison sacs of a mamba mixed with the fat of snakes. But evidence respecting the alleged cure of snake-bites and the preparation of antidotes against arrow poison cannot be accepted with assurance.

In the eastern Kalahari, bodies are buried in a contracted position in anthills around which fences of thorn-bush are erected to keep away jackals and hyenas. Ghosts are feared because they are thought to wander at night, but beliefs are conflicting.

CONCLUSION

Bushman tribes differ in physique, language, and cultural elements; likewise in the extent to which they have been influenced

by Hottentot and Bantu Negro neighbors. In view of these differences, W. Hirschberg (1933a) has asked whether there is a Bushman culture. The answer must be in the affirmative. Fundamental to the various forms of Bushman tribal life is a stone-age culture, a highly developed pictorial art, a paucity of material possessions, a highly skilled hunting technique, absence of agriculture and domestic animals, and the possession of rudimentary dwellings. Social organization is of a flexible kind which harmonizes with a nomadic hunting culture, while spiritual beliefs and magical practices are not welded into a coherent system. Religious beliefs and rites are not institutionalized with that definiteness which is characteristic of many Negro tribes, but such rites and beliefs are clearly oriented toward the maintenance of food supply. The harshness of the climatic and ecological conditions make the factor of nutrition primarily important, and spiritual exercises are directed toward assuring adequate rainfall and pasture for the game on which the hunting community depends.

READING

In addition to references inserted in the text the following literature is of primary importance since the reading makes a general survey of Bushman cultures in several localities. In German, Pas-sarge's (1907) study is still important, but the work is now supplemented by the general studies of Lebzelter (1934a, b). Immenroth (1933) has produced a compilation work comparing Pygmies and Bushmen, and this contains a large bibliography. Rodenberg (1931) has prepared a general survey of like kind dealing with herders, hunters, and food gatherers of South West Africa in their relation to the land and its produce.

In English the survey of Schapera (1930a) brings together in critical manner all the available evidence for Bushman culture, and in a short article (1926) he discusses the cultural relationships between Bushmen and Hottentots. D. F. Bleek has published an article on Bushmen of Angola (1927), a short work on the Naron tribe (1928), and a series of articles on the !Xam Bushmen in *Bantu Studies* (1931-33). O. T. Crosby has contributed an article on the Bushmen and Ovambo (1931). Dornan (1917) made a study of the Tati Bushmen (Masarwas), and he has published an instructive travel book entitled "Pygmies and Bushmen of the Kalahari." A. W. Hodson's book "Trekking the Great Thirst," would form an entertaining introduction to more serious study.

PYGMIES

In a study of the hunting culture of Pygmy groups of the central forest region, the difference of their habitat from that of Bushman hunters is a factor of importance. The former live in the most densely wooded regions of Africa, while the latter occupy semi-desert country. In both cultures, the occupation of hunting leads to the formation of temporary encampments, a flexible social organization, and a splitting up into small family groups.

PYGMY AND BUSHMAN CULTURES COMPARED

P. Schebesta (1932a) describes the Bambuti groups as a submerged class among Bantu Negroes, who regard the Pygmies with disdain. A horde of Pygmies is attached to every Negro village, and a Negro chief is patron over one or more groups of Pygmies whom he has inherited from his father, and whom in turn he will pass on to the custody of his son. This statement shows a fundamental difference between the culture contacts of Bushmen and Pygmies with their respective Bantu neighbors. That Bushmen have adopted traits from Negro tribes has been recognized, but Pygmies form a much more permanent cultural liaison with their Bantu neighbors; in fact, the reciprocal duties set up a definite state of social symbiosis. Pygmies supply meat to Negroes and receive in return agricultural produce. As with Bushmen, a certain amount of miscegenation with Negroes takes place. Schebesta states that Negroes often take Pygmy women as wives, a procedure that upsets the sex ratio in Pygmy hordes; he does not state whether Pygmy men ever marry Negro women.

Among the Bambuti, material culture has many points of close resemblance to the hunting culture of the Bushmen. Males are hunters whose chief weapons are bows and poisoned arrows. But spearing animals, together with the use of nets and many ingenious traps, forms part of the regular technique. Dogs, which are used in hunting, are the only domestic animals; this is also true of the Bushmen. Women, as among Bushman tribes, collect wild vegetable produce, carry loads from Negro villages, build huts of a temporary kind (Figs. 64, 65), cook, care for children, gather firewood, and draw water. With respect to water supplies, Bushman ingenuity is exercised to find supplies in a dry habitat, whereas the habitat of the Bambuti Pygmies has a heavy rainfall. Other important traits in the hunting culture of Pygmies and Bushmen are preparation of arrow poison, making fire by twirling, and collection of honey.

Reference has been made to the Bushman method of preparing arrow poison from animal substances such as crushed spiders, scorpions, and the poison glands of snakes. Pygmies appear to depend for their poison on the juice of a liana. The poison is prepared by the community for common use, and not by each individual hunter. Lianas containing the poisonous principle are pounded to pulp in a wooden trough, and the juice is squeezed out by twisting the pulp in a rattan press. The arrow-tips are smeared with the juice and dried, first over a fire, then in the sun. Pygmies tip their arrows with iron points as do some Bushman tribes, but, like the Bushmen, they obtain these from Negro neighbors since the blacksmith's craft is unknown to them. Pygmies do not feather their arrows as Bushmen do, but fix a split leaf to the butt of each shaft. Simple skin loin coverings are the typical clothing of both Pygmies and Bushmen.

Hunting territories for bands including several families, and hunting territories for tribes are recognized by Pygmies as they are by Bushmen, and infringement of hunting rights is a cause of conflict. Among Pygmies, as with Bushmen, the family group is the basic economic unit. Game is divided by an elder of the family group, who distributes a portion to each of the restricted families. Even the man who killed the animal has no authority in the division. A family outside the clan (group of related families) may claim a share in the spoil if kinship with the clan can be shown. As with Bushmen, the Pygmies have recognized individual ownership. If a man gathers nuts, these belong to himself or to his restricted family. If a woman kills a snake, she may cook it for her own restricted family, but when common effort has been made all the families of a clan group share the food. An example of this communal effort and communal sharing is found in the use of large nets whose handling requires all the males of the Pygmy clan to snare the game.

Among Bambuti Pygmies the clan is a group of Negro origin; each clan has a definite camping ground, hunting territory which can be used by all families of the clan, and a clan totem. Each clan recognizes some taboos respecting the killing and eating of its totem animal. Tribal unity hardly exists, since a tribe is divided into clans, each with a chief, and according to Schebesta there is no cohesion or central authority for the clans. Theoretically, the Pygmies are polygynous, but perhaps only one male in a hundred has more than one wife. If a Pygmy woman is dissatisfied with her marriage either to a Negro or to one of her own tribesmen she will return to her own family, and her clan will protect her under these



FIG. 64. Bambuti Pygmies, southern border Ituri Forest (from photograph by E. Heller).

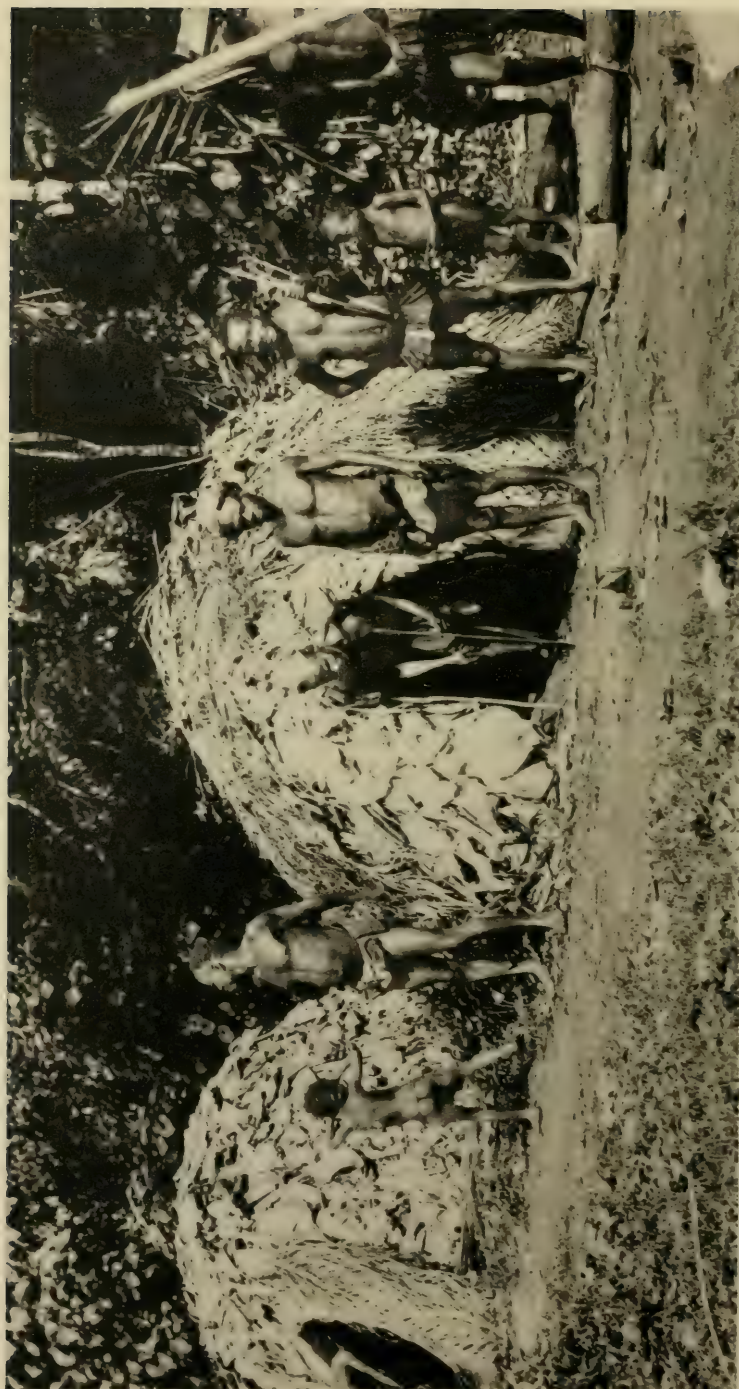


FIG. 65. Huts of Bambuti Pygmies, Ituri Forest. Built near place where elephant was killed by Pygmies (courtesy of Delia Akeley, copyright, 1930).

circumstances. Exogamy in family groups is a binding regulation, and the rules of exogamy sometimes apply to clans, in which case a man or woman must marry outside his or her family and clan. Some of these social customs are undoubtedly due to Negro influence, and Schebesta states that among the Efé Pygmies circumcision has been adopted only recently as a result of contact with Negroes.

There is more information concerning religious beliefs and magical practices of Pygmies than of Bushmen. In connection with hunting several ritual acts occur. The night before Efé Pygmies hunt elephants all the women give a magical dance, during which they squirt water from their mouths to bring good luck to the hunters. Hunters run out from the dense copses and spear an elephant in the hind legs, after which mortal spear thrusts are made. A honey gatherer utters a prayer for success, and from the tree he tosses part of a honey-comb into the forest. Part of the heart of a slain animal is thrown into the forest as a libation. Charms associated with witchcraft are obtained from Negroes, and sores on the body are attributed to witches' spells. Schebesta (1931a) has published an article dealing solely with religious beliefs of the Bambuti Pygmies.

Definite religious ideas are few. Worship of the dead, so strong in ancestral cults of Negroes, scarcely enters into the lives of Pygmies, yet Pygmies have a definite impression of the human soul as an entity distinct from the body. They call the soul *bukahema*, and say that at death it departs from the body as breath. If a person has been wicked the soul is cast into a fire. Souls of the good go to Mungu, a god who has the appearance of a man. Possibly some European influence is reflected in these beliefs. Pygmies believe in visits from ghosts. Schebesta gives an account of Pygmies who throw leaves on a fire to create a smoke that will appease spirits of a thunderstorm. There is, however, no evidence of well-developed beliefs which are coordinated and centralized in persons or institutions.

READING

Schebesta's contributions are the most substantial we have for study of the Ituri Pygmies, but several brief descriptions of Pygmies ought not to be overlooked. In the section dealing with physical anthropology, reference was made to the first descriptions of Pygmies by early explorers, Du Chaillu for the Gaboon, Junker, Schweinfurth, and Stanley for the Ituri. In addition to these, several books of a semi-popular kind contain useful accounts of Pygmy life. Among these travel books and general accounts, which are really very serviceable, are those of H. H. Johnston (1902b), Verner (1903),

Powell-Cotton (1904, 1908), Christy (1915, 1924), Bergh (1922), and Wollaston (1908). Schumacher (1927, 1928) has contributed accounts of the Kivu Pygmies in the eastern Belgian Congo. The culture as well as the physique of these Pygmies seems to have been considerably affected by contact with Bantu neighbors. An illustrated article by Maes (1911) deals entirely with the material culture of the Bambuti. Trilles' (1932) social studies of Congo Pygmy groups, other than the Ituri, is important for comparative study with data relating to the Bambuti.

SCATTERED HUNTING GROUPS

In addition to Bushman hunting culture of the desert type and Pygmy culture of the dense forest, we have G. W. B. Huntingford's (1929, 1931) description of bands of hunters of the parkland country of northeast Africa. The racial affinities of these hunters are negroid, but the details of their phylogenetic connections and tribal history are unknown. They are, however, neither Bushmen nor Pygmies, though one group, the Dume living to the northwest of Lake Stefani, have some resemblance, somatically and culturally, to true Pygmies of the Ituri forest (A. D. Smith, 1897, pp. 272-275).

The Okiek, commonly called Dorobo, live solely by hunting. They speak a dialect of Nandi and are hunters for the Masai. The Nandi and the Masai are Half-Hamites, with culture, language, and physique that are basically Hamitic. The Dorobo have features that are more negroid than those of the Masai, and presumably they have not been affected by Hamitic mixture since they are merely a servant class for the pastoral Hamites; yet, according to Huntingford, the Masai do not disdain their Dorobo hunters.

In the coastal area of Kenya Colony live hunting tribes named Sanye, Boni, Ariangulu, all of whom are primitive and undeveloped in their culture pattern. The Boni, who call themselves Watwa, hunt for the Somali, and in Abyssinia there is a low caste of hunters whom the Galla call Wáttâ (Cerulli, 1922, pp. 200-204).

Houses of the Dorobo (Fig. 92) closely resemble those of the Bambuti Pygmies of Ituri, since the dwellings are made by placing the ends of supple sticks in the ground to form a dome which is thatched with banana leaves and other broad foliage. Other cultural traits of the Dorobo are in harmony with the general pattern of the hunting cultures already examined. The Dorobo have only recently practiced a little agriculture, and they have no domestic animals except dogs. Leather clothing is of a simple kind. Fire is

made by twirling. In the practice of placing hives in trees the Dorobo are in advance of the Ituri Pygmies, who merely collect honey from the nests of wild bees. The Dorobo have few crafts, and they do not make objects of iron, though they possess iron arrow-points, spears, and swords; these, along with shields are obtained from the Nandi. A chief is elected, and the office is not hereditary; a council of elders is the responsible governing body. Following the system of the Masai and the Nandi, males are divided into boys, warriors, and old men. At the time of circumcision a boy enters the warrior class. These traits show, as we also noted for the Ituri Pygmies, an adoption of customs from neighboring tribes. The Dorobo do not practice burial but leave their dead in the forest to be devoured by hyenas.

BASIC TRAITS OF HUNTING CULTURES

Among the hunting cultures considered, there exist several important differences, though the social and economic patterns are fundamentally similar. Bushmen, Pygmies, and Dorobo are all of negroid stock, but their physical differences are pronounced, and their languages are distinct. The Bushmen have their own peculiar click languages, which differ from all other African tongues. The Pygmies speak current Bantu languages which are employed near to them. The Dorobo speak the Nandi language.

These hunters all adopt cultural traits from surrounding tribes; Bushman tribes have adopted some factors of southern Bantu culture. Pygmies have well-established cultural liaisons with central Bantu tribes, and the Dorobo social pattern is modeled on that of the Hamitic Nandi.

Common material traits are the use of bows and poisoned arrows along with many ingenious hunting devices. Hunters have few arts, and they are usually dependent on adjacent tribes for blacksmith's work, pottery, baskets, wood-carving, and ornaments. Bushman pictorial art is an exception, for the Bushmen are the only hunters who have specialized in this way.

Hunting tribes have no agriculture, and they are dependent on wild vegetable produce dug up and gathered by their women. Dogs which are used when hunting are the only domestic animals. Dwellings are of a simple kind, quickly constructed and frequently abandoned when the tribe has to follow game or find a new water supply. Clothing consists of simple pieces of hide or at the most a fur cloak, as among Bushmen and Dorobo.

The salient point of the social organization is simplicity, lack of cohesion, and absence of centralization. The functioning groups are those consisting of a few individuals comprised in a family. Families may be united into clans as among the Pygmies, and a loosely coordinated tribal unit may exist. Inheritance and succession are problems of minor importance; in fact, they hardly arise. Law and legal procedure depend on well-established precedents. Private feuds are recognized methods of redress, and the judicial system, like the social organization, is of a distinctly decentralized type when compared with the system of Bantu Negroes.

Magical practices and religious beliefs are of an elementary kind, showing a lack of centralization in persons and institutions. The Dorobo have the most elaborate social structure of the hunting tribes, but this organization has been adopted from the Nandi, and it cannot be regarded as part of a primitive hunting culture.

Possibly the hunting cultures examined here represent a type of life that was characteristic of a large part of the African continent before the intrusion of pastoral Hamites on a large scale, and before the elaboration of the complex social, religious, and legal systems that are now typical of agricultural and semi-pastoral Negro society.

The hunting cultures that have been described are typical of a definite mode of life, with local variations. But the fact should be recognized that many Negro tribes with a complex culture, including pastoral pursuits and an agricultural system, still possess a flourishing hunting culture in which ritual observances are even more elaborated than they are among the typical hunters.

The historical truth seems to be that many Negro tribes, while acquiring a complex economic pattern, have held tenaciously to their hunting traits, partly on economic grounds, but to a great extent because of the sacred character of the rites associated with the hunter and his craft.

III. PASTORAL PURSUITS

The words "pastoral culture" may be used to describe the social patterns of numerous tribes inhabiting the northeast, south, south-east, and southwest regions of Africa. These tribes possess widely divergent somatic and linguistic characteristics, and among them are to be found cultural differences, for example, in the degree of agricultural and industrial development, and in the extent to which social organization is focused in a central authority such as a king or chief. But, despite dissimilarities, a certain homogeneity of culture results from the rearing of cattle and the clustering of many fundamental social, religious, and economic traits about this one occupation.

EXAMPLES OF TYPICAL CATTLE CULTURE

The geographical focus of the cattle-keeping culture is the region of Lake Victoria Nyanza (Roscoe, 1907, 1911, 1915 et seq.). Here the chief industry of the Banyoro is pastoral, and in the ranks of herdsmen may be found men of the highest rank. But, whatever their social status happens to be, all cattle owners disdain agriculture, handicrafts, building, and hunting as a means of making a living. Cattle are divided into herds according to their colors, each herd being kept apart from other herds which differ in this respect. Little regard is given to producing the breed of cows that gives most milk. If a cow suckles her calves well, and especially if she gives birth to cow calves, she is highly esteemed; whereas a cow that usually bears bull calves is not so highly valued, even though her supply of milk is satisfactory. Herdsmen hold the bull responsible for the sex of the calves, so to remedy the birth of bull calves they change the mating. One bull is thought to be able to serve fifty cows, but in large herds several bulls are kept, and these fight for supremacy. Some bull calves are made impotent by crushing their testicles, and these animals are reared for killing purposes only.

Among the Banyankole the king is owner of all cattle, but he has his personal kraal, herds, and herdsmen. The milk supplied to the king is consumed by the men, women, and children of the royal household, but persons of the slave class are nourished on agricultural produce. Vegetable food is considered unclean for strictly pastoral people, and if these persons eat vegetable produce they must observe a fast which is followed by purgatives and emetics.

Women churn butter, but milking and herding cattle are exclusively the work of men. In the king's kraal is a sacred fire having an

attendant who keeps it burning perpetually, until the time of the king's death. Then the old fire is extinguished, and a new one is created by use of a frictional method. Portions of the new fire are distributed to other kraals and houses. At the fire in the king's kraal the war chief renews his skill and courage by rubbing himself with the ashes.

When a king dies, his body is wrapped in the hide of a newly killed cow, after the royal corpse has been washed with milk. Bulls are killed at the graveside of the king, and even the cattle are made to participate in the mourning. Cows are separated from their calves so that both make a melancholy lowing, and the night before a bull is sacrificed at the king's funeral, the animal's scrotum is tied so that it cannot mate with the cows but keeps up a mournful bellowing. Some cows are dedicated to the dead king, and from these milk is taken daily for his shrine. The cattle killed at the grave are said to become the king's herd in a ghost world. Milk is a sacred product which is offered to the royal drums, and to pythons kept as cult animals in a special temple near Mwanza, south of Lake Victoria Nyanza. A taboo against the consumption of milk by menstruating women is a further instance of the sacred character of this dairy product.

Medicine-men and rain-makers are important because the former are expected to predict the future of the herd, to foresee calamities, and to provide remedies for sickness. Rain-makers to the king hold a distinguished though not an enviable position, since they are responsible for producing an optimum amount of rainfall. Should the supply of water be insufficient, the king feeds the rain-makers with salt and deprives them of water until their magic is successfully performed. On the contrary, if the rainfall is too heavy, the rain-makers are immersed to their necks in water, into which they are repeatedly pushed until semi-suffocation causes them to check the down-pour of rain.

In addition to the economic, magical, and religious aspects of the pastoral culture, life is socially dependent on the possession of herds. A man's social standing is judged by the size of the herds he owns; cattle are used for paying fines, taxes, and debts, and for securing brides. Roscoe points out that the use of cattle as a standard of wealth has led to a form of polyandry in which two brothers, who are unable to afford a wife for each, secure a woman who is a wife for both of them. Polygyny, that is, the possession of more than one wife, is a common African practice, but polyandry is rare. All the

works of J. Roscoe treat of the importance of cattle as the warp and weft of the culture pattern of Uganda, and for Ruanda, Delmas (1930) produced similar evidence. The Nilotic Negroes, of whom the Dinka, Shilluk, and Nuer are typical, provide an apt illustration of the way in which every aspect of life, economic, social, and religious, centers round the possession of herds. Of the Dinka, H. O'Sullivan (1910) states that all the laws of the Dinka can be grouped in association with four main principles: namely, the possession of women and cattle; securing wives by payment to the kindred of the spouse; inheritance of women, children, and cattle; payment of fines by means of cattle.

Many writers attest the basic importance of herds of cattle in the lives of Nilotic Negroes, with the exception of the Anuak (Bacon, 1922). Among the Nuer, agriculture is almost wholly neglected, despite the fact that grain could easily be grown (H. C. Jackson, 1923). Frequently the Nuer border on starvation since they, in common with the majority of pastoral tribes, refuse to slaughter their cattle for food. An excellent account of the daily life of the Nuer and their seasonal migrations has been prepared by E. E. Evans-Pritchard (1936b).

The Shilluk also focus the whole of their religious, social, and economic life on care of cattle. The prosperity of the herds, which depends on rainfall and pasturage, is closely connected with magic, rain-making, and the ceremonial preservation of the vigor of the ruling king (Westermann, 1912; Hofmayr, 1925).

J. H. Driberg (1922, 1923) shows that among the Lango of Uganda, also among the Didinga, care of cattle and preservation of the office of official rain-maker are intimately related by much ritual, prayer, and sacrifice. A brief description of the Didinga tribe has also been given by Molinaro (1935). A comprehensive account of the whole of the Nilotic cattle culture has been prepared by C. G. and B. Z. Seligman (1932). F. R. R. Somerset (Lord Raglan, 1918) has described the Lotuko, and Titherington the Raik Dinka (1927).

The Bahr-el-Ghazal Dinka have been the subject of an article by Cummins (1904), and more recently Crazzolara (1934) and Czekanowski (1927) have contributed to the study of Nilotic Negro pastoral patterns. Consult also L. F. Nalder (1936), and the periodical Sudan Notes and Records.

A Half-Hamitic tribe named the Suk, living northeast of Lake Victoria Nyanza, are divided into pastoral and agricultural sections (Beech, 1911). The former division is composed of the aristocracy,

while the other division is responsible for manufactures and tilling the soil. The pastoral Suk have individual names for their cattle, and a long vocabulary of adjectives for describing the colors in detail. Beech says, "The Suk live for their cattle and everything is done to make them objects of reverence." Examples of the ceremonial which is associated with cattle are numerous. Animals whose horns have been twisted as an embellishment are decorated with ostrich feathers and driven to the river, while warriors dance around them to give good luck in a raiding expedition. Once a month the animals are driven to a salt lick at the first appearance of a new moon. The herd is not allowed to proceed if no moon is visible, for there is a belief that this would produce sickness in the herd.

Cattle are marked according to the clan to which they belong, but marks of personal ownership are unnecessary since each owner knows his animals so well that no confusion can arise. The Suk, like the Masai, follow the practice of drawing blood from the veins of bulls, for which purpose a special arrow is used and a ligature is tied; the blood is drunk with milk.

The corpse of a commoner who owns no cattle is thrown in the bush, but the body of a cattle owner is buried in his kraal with three feet of cattle dung above him, and the site is abandoned. Grass is a sign of peace, and a man who wears a tuft of grass on his head will be spared by a victorious enemy. If raiders enter a kraal and women are able to pour milk on them, no killing takes place.

If cattle are stolen and recovered, their blood plays an important part in the trial of the accused. Blood drawn from the cattle is thrown at the cattle, the accuser, and the accused, in the belief that a man who has spoken falsely will die. This is a form of trial by ordeal. Cattle are used as fines and compensation, and a murderer is expected to pay fifty cows as blood-money to the relatives of his victim. Ownership of cattle and the use of land for grazing are linked factors. Grazing land belongs to the whole tribe and no family or clan can claim the right to own or use a particular portion. But in practice, as a result of long-established custom, each family is restricted to the use of a definite area.

The Masai of Kenya (Hollis, 1905; Merker, 1910; Leakey, 1930) esteem their cattle above all other possessions; they despise agriculture, hunting, and manual labor. Masai lion hunters have great prestige, but the Masai will not hunt as a means of providing food; this work is given to the Dorobo, who are a serf class. Among the Masai, grass, milk, and the blood of cattle have important symbolic



a



b

FIG. 66. Cattle-keeping Vakwanyama, Angola. *a*. Woman with hide skirt and leather belt. *b*. Man wearing *omba* shells and hide loin-covering.

uses. Drinking of blood and milk is a form of covenant, a blood brotherhood. In legal procedure the accused drinks blood of an ox, saying, "If I have done this deed, may God kill me." When a boy is about to be beaten by a warrior he tries to pluck a tuft of grass, for this act will give him immunity. During drought, women fasten grass on their clothes and pray to the Black God who sends rain. The importance of religious belief and magical practice in relation to pastoral life among the Masai has been discussed by H. Fokken (1917); Huntingford (1933a) and Hollis (1909) have described customs of the pastoral Nandi.

The value of cattle in the social and economic life of these tribes is shown in many ways. Presentation of cattle to a prospective father-in-law is a necessary part of a marriage contract. Cattle are used in payment of fines and as compensation for injuries inflicted. Testamentary bequests are in the form of herds, for there is little property of any other kind. At the death of an old person, a medicine-man, or a rich owner of cattle, an ox is slaughtered. Fat from the sacrificed animal is rubbed on the corpse, which is then wrapped in oxhide, and at a funeral feast the sacrificial meat is eaten.

The typical pastoral culture is not confined to Hamites, such as the Bahima, to Half-Hamites (Suk, Masai, and Nandi), or to the Nilotic Negroes. The same type of cultural pattern, modified by the incorporation of an agricultural system maintained by the labor of women, is characteristic of many tribes of Bantu-speaking Negroes.

MODIFIED PASTORAL CULTURES

The Ba-ila of Northern Rhodesia value their cattle above all other possessions, and they are indignant with the idea of using cattle for transport or harnessing them to a plow. The Ba-ila think that cattle have melodious voices, and the natural beauty of the animals is enhanced by decorating them with necklaces, ruffles, and bells. A ceremonial element enters into milking processes, for the herding and the actual operation of milking are accompanied by drum music. Migration to a new pasture is an occasion for the ceremonial slaughter of an ox, and when cattle are killed at a funeral feast the hides are used to line the grave (E. W. Smith and A. M. Dale, 1920).

The Bavenda (Stayt, 1931a) of the Transvaal are cattle keepers who use the animals for paying tribute, fines, and debts, for ritual meals, and as an offering to a deity. Cattle form the *lobola*, which must be paid to a bride's kin in order to legalize a marriage and to secure possession of the woman and her children by the husband. Among all the southeastern Bantu tribes, cattle have been important



a



b

FIG. 67. *a*. Cattle of the Ovimbundu, Elende, Angola. *b*. House of cattle-keeping Vakwanyama, Angola.

in warfare, social life, law, and religion. I. Schapera has described the magic and medicines associated with cattle in Bechuanaland (Schapera, 1930b, 1934a).

In South West Africa the Herero are a typical Bantu Negro tribe with pastoral pursuits as the most salient feature of their culture. H. Vedder believes that the Herero had contacts with pastoral Hamites early in the cultural history of these east African invaders. Vedder states that Herero traditions indicate their migration from east Africa to southern Angola, then across the River Kunene to their present location (Vedder, 1923).

The chief work of men centers in herding cattle, but women and girls are allowed to milk the animals. A prohibition against the washing of milk vessels exists, and the utensils must be used and remain unclean until they fall to pieces. Meat is too valuable to be used as food, but milk is a staple diet. Agriculture and handicrafts are considered menial.

In religious exercises (Brauer, 1925) cattle play an important rôle. Cattle are sacrificed to ancestors, but no part of the meat is eaten until some has been offered to ancestral staffs which are carefully preserved. The holy fire is situated between the calf kraal and the house of the chief's principal wife. The sacred fireplace is an altar around which the horns of sacrificed animals are piled. Extinction of the fire would mean annihilation of the tribe, since the fire was a gift from the god Mukuru. A man who is setting out on a journey secures a blessing from his ancestors by carrying a brand from the sacred fire. The embers he carries form the nucleus of a new fire at his destination. The Ovambo, including the Vakwanyama of south Angola, have a pastoral culture which is similar to that of the Herero (C. H. L. Hahn, 1928; Irle, 1906, 1917).

The Benguela Highlands of central Angola, which are occupied by the Ovimbundu, mark the southwestern limit of expansion of the Hamitic cattle culture. Primarily the Ovimbundu are agriculturalists, but they have added certain factors of the pastoral system to their typical Bantu Negro culture. The head of a dead chief is severed and wrapped in oxhide, which is ceremonially renewed. Mourners of the chief's family wear bracelets of oxhide. Cattle are killed at the funeral feast and the horns are mounted over the grave (Hambly, 1934a).

The foregoing summary gives the main outlines of the typical pastoral culture, which has been described in detail by M. J. Herskovits (1926). But, in addition to this culture pattern, there exist



a



b

FIG. 68. *a*. Transport by cattle, Maradi, French Niger Territory. *b*. Portuguese riding an ox, Elende, Angola.

several tribes whose most valuable possession is cattle, yet the animals are not the focus of the social and religious life. The Baggara (Yunis, 1922; Lampen, 1933), the Kababish (C. G. and B. Z. Seligman, 1918) and other tribes of Kordofan and Dafur value their cattle, but the animals are used for transport (Fig. 68, *a*). The herds do not play an important part in ceremonial life.

Study of life in Abyssinia affords many examples of the herding of cattle, which have great economic and social value. But the religious aspect of the true pastoral culture is in abeyance, perhaps because of the wide establishment of Mohammedanism, which has usurped the place of earlier Hamitic and Semitic veneration for cattle. There is no specific work on social attitudes toward cattle in Abyssinia, but data will be found in the following publications: Parkyns (1853), Cecchi (1885-86), Casati (1891), Paulitschke (1888, 1893), and Ferrand (1903). Modern contributions to the life of the Galla and other Abyssinian tribes are given by Werner (1914), Bieber (1920), Puccioni (1931), Cerulli (1933), and Jensen (1936).

The Hottentots use oxen for riding and transport, and females are allowed to milk the cows. In these usages the Hottentots differ from truly pastoral tribes, yet a certain amount of ceremonial is recognized. Menstruating women must abstain from milking and afterwards be ceremonially reintroduced to the work. Girls who are passing through puberty rites are conducted round the kraal so that they may touch the male animals and so confer potency on them. Any breach with the traditions of the past, any toleration of slackness in carrying out the restrictions demanded for all contingencies in the life of the people, is bound to affect the stock adversely (Schapera, 1930a, p. 298; Hoernlé, 1918, 1925; Lebzelter, 1933).

Some of the nomadic, cattle-keeping Fulani of west Africa have an attitude toward cattle which is concerned with both economic and ceremonial requirements. On the one hand, bulls and oxen are trained to carry loads, but the Shuwalbe Fulani believe that cattle had a magical origin, for they are regarded as a gift from a water spirit. The owners are familiar with their cattle and are able to call each by name. The flesh of cattle is seldom eaten, and then only on ceremonial occasions such as naming a child, celebrating a wedding, or observing a Mohammedan festival. Women milk the cows and churn butter. Cattle are inherited in the male line from fathers to sons, and sharing of the cattle according to their colors is a feature of the system of inheritance. The oldest son takes all the black cattle, while the younger sons share the white animals. In time of drought

a herdsman strips himself, then stands among the cattle and anoints their horns with milk. If disease threatens the herds, a Mohammedan *mallam*, who is a teacher and maker of charms, walks seven times round the kraal, repeating texts from the Koran. The traits described indicate a blending of factors of the true Hamitic pastoral culture with those of Mohammedanism (Brackenbury, 1923; L. N. Reed, 1932; Wilson-Haffenden, 1927, 1930; and Von Pfeffer 1936).

SUMMARY

In analyzing the social patterns that have developed in association with pastoral cultures, the following traits are found to be of primary importance, though they are not all present in every pastoral culture; neither do particular traits receive equal emphasis in each of the cultures in which they occur.

The attitude of herdsmen toward their cattle is one of extreme solicitude; the care and affection lavished on the herds is one of the most impressive aspects of the culture. Religious and magical concepts associate cattle with life beyond the grave, with burial rites, and with the sacrificial use of meat, milk, and blood. Prayers and ritual for making rain are important, while the use of sacred fire is one of the most constant traits of the culture. References to this trait are numerous from Uganda to the extreme south, and southwest to the Ovimbundu. Eiselen (1929) has dealt fully with ritual connected with the sacred fire of the Bapedi of the Transvaal.

At the head of a social system which is founded on pastoral pursuits, the office of king or chief has sacred functions, and official rain-makers are the principal priests. Social status depends on the ownership of cattle; the larger the herds, the higher the rank of the possessor. Fulfillment of marriage contracts is dependent on ownership of stock. Inheritance and succession are usually in the male line from father to son or to a brother of the deceased. Blood brotherhood, which forms the most enduring of social ties, is effected by drinking a mixture of blood and milk from cattle. Typical Hamitic herdsmen, as among the Bahima and Masai, form a social aristocracy and a military caste, which is concerned with raiding for cattle and securing new land for grazing purposes. In some Hamitic social systems, namely, those of the Galla, Masai, and Nandi, age grades are fundamental for both males and females. According to a complex system, males pass from boyhood through the warrior class to the governing grade of old men. In the legal system, cattle are important as tribute, for payment of taxes, and as compensations.

In economic life, procedure varies among different pastoral tribes, but Nilotic Negroes, Hamites, and Half-Hamites who possess the typical cattle culture disdain agriculture and handicrafts, which are either neglected or relegated to a serving class. Meat is not eaten as an item of the ordinary diet, but it is consumed as a rite which is associated with some event of social and religious importance. Milk is a staple food. Some pastoral tribes make butter, and certain tribes drink the blood of cattle mixed with milk.

A division of labor on a sex basis is evident in the true pastoral culture. Men are the usual herders and milkers, but local customs vary in this respect. Among some Bantu Negroes, for example, the Ba-ila, the Ovimbundu, and the southeastern Bantu, keeping cattle is combined with a well-developed system of agriculture which is in charge of women. Despite differences in social patterns among cattle keepers who inhabit the large areas of east and south Africa, the primary traits are well enough preserved to justify the generalizations we have made with regard to a typical pastoral culture.

IV. CAMEL KEEPERS OF THE SAHARA

THE TUAREG

In order to illustrate the basic importance of the breeding of camels and the use of these animals in caravan trade, three areas of the Sahara are selected for study. These regions are the mountains of Air in the south-central Sahara, the plateau of Tibesti in the east-central Sahara, and the oases of the eastern Libyan Desert. The tribes inhabiting these regions differ in physique, in language, and to some extent in culture, but all are primarily dependent on the ownership of camels and on agriculture within very restricted fertile tracts. The chief spiritual factor is Mohammedanism.

Enormous tracts of the Sahara are uninhabited, and the absence of regular water supplies over most of the area has caused human life to be concentrated either in high plateau regions or in oases, for in these areas permanent supplies of water can be obtained from wells. Between these habitable regions are two types of desert, the stony and sandy (Figs. 4, 5), which are so arid that communication can be maintained only by means of camel transport. This has been of primary importance in warfare and trade. The oases suffer from an incessant onslaught of sand that fills gardens, streets, and wells, so that in sedentary life as well as in trekking, the fight against desert conditions is continuous. Details of temperature and rainfall together with ecological information are given by Fitzgerald (1934, pp. 56-57, 59-60). Chevalier (1932) should be consulted for information relating to plant geography.

The oasis of Kowar, with Bilma as its chief town, lies between the mountains of Air and the plateau of Tibesti. Of the desert region near Bilma, A. Buchanan says, "The Bilma Desert is desert at its worst, an absolute sea of sand destitute of the minutest object. Nothing relieves the eye, not even a morsel of vegetation, and there is no living creature whatever."

Caravan routes follow the dried courses of ancient rivers that used to form a network of channels over the Sahara (Bourbon, 1933). The speed with which these depressions (*wadis*) can be converted into river beds is related by Buchanan (1926, p. 204): "The first warning of impending events came from a huge ominous cloud, lurid lightning, and a roar of thunder. The whole aspect of the country changed, while streams began to form and gurgle all round us; these grew at an alarming pace. A low murmuring arose in the hills behind

and drew nearer until we witnessed the remarkable sight of a foam-crested billow advancing down the hitherto empty river bed; so the stream was breast high." The water from such cloudbursts is wasted, with the exception of that which sinks through the sand and finds impervious strata. In such places wells are formed, and on these the long-distance caravans are dependent.

In the mountains of Air (Asben), rains begin in early July and continue throughout August, by which time the customary routes have been converted into channels of water that render them impassable. After the rains the valleys and hillsides are clothed with verdure, including many grasses, palms, and acacias. The thorny acacias are particularly useful as food for camels. Among these mountains, which rise to a height of 6,000 feet, live the Tuareg of Air, surrounded by both stony desert and dunes, whose crossing is attempted only under the leadership of a few renowned guides. Fig. 69 shows a typical Tuareg camel caravan, and Fig. 70 gives a group of Tuareg horsemen.

The journeys of Buchanan (1922, 1926), which were taken chiefly in the interests of zoology, demonstrated a distribution of animal life greater than had been anticipated. On the sparsely covered plains of Damergu between Lake Chad and Air, bustards and ostriches were found, while giraffe were occasionally seen. Antelopes included the white oryx, from whose hides the Tuareg make their large triangular shields, also the addax, which ranges as far north as 22°, a point well within the desert area. In Air warthogs are rare, but they are seen at intervals, as also are jackals, wildcats, hyenas, foxes, ground squirrels, jerboas, porcupines, and hares. Lions are rare in Air, but F. R. Rodd gives an account of the killing of one in recent times. Buchanan reports that his collection of birds from the Sahara included 134 different species and subspecies, many of which were migrants from southern Europe. In Air, and in the Hoggar Mountains north of Air, Barbary sheep live at high altitudes.

In this habitat lives a section of the Tuareg, a word that is used by Arabs to designate many tribes who call themselves Kel Tagilmus, People of the Veil, in reference to the fact that all adult males cover their faces so that only their eyes and the upper parts of their foreheads are seen (Palmer, 1928, vol. 3, p. 62; this work, Fig. 70). The veil is not removed under any circumstances; even during meals it is lifted when food is placed in the mouth. The origin of this custom of wearing the *litham* has not been explained. The veil is one of the insignia of manhood assumed by a boy who is ceremonially



FIG. 69. Tuareg Caravan, near Zinder, French Niger Territory.

passed into the adult stage. The Tuareg are divided geographically into five main groups having some ethnological and linguistic differences. The Hoggar, Adzjer, and Iforas are the Tuareg of the north. The Tuareg of Air and the Niger are Tuareg of the south. The tribes of Air who have been selected for consideration here are physically, linguistically, and culturally similar to those of Hoggar.

Among the best works dealing with the Tuareg are Palmer (1932, 1934, 1936b), Rodd (1926, 1936), Abadie (1927), Duveyrier (1864a, b), Aymard (1911), Benhazera (1908), De Zeltner (1914 a, b), Chudeau (1909), L. Hall (1927), D'Armagnac (1934), and Schirmer (1893). D'Armagnac (1934) has discussed the subject of racial and cultural diffusion in the Sahara. In T. Monod's (1933-35) bibliography of the Sahara will be found a survey of the chief literature dealing with this region.

The facts detailed under physical anthropology showed the Tuareg to be northern Hamites of aquiline features, with gray-blue or perhaps dark eyes, and curly hair unlike the woolly hair of Negroes. They are tall and slender, with dignified and graceful carriage. The skin color is often olive brown and many Tuareg, if suitably dressed, would not be incongruous among Europeans of the Mediterranean race. Physique, social organization, and economic conditions have been affected by acquisition of Negro slaves from the western Sudan.

MATERIAL CULTURE

The main items of clothing for men are flowing robes and wide trousers, with perhaps a tanned goatskin or sheepskin worn round the loins below the trousers. Both blue and white colors are used by men; the former are the more common. Sandals of leather or palm fronds are worn. Charms include small leather satchels containing Koranic texts; these are fastened to the arms or are suspended round the neck. Steatite (soapstone) armlets of green color are worn above the elbow as an indication of rank. Some of these ornaments show neat repair work with small metal rivets. The rings are rubbed down from a round matrix, polished with sand, and baked in fat. A popular neck ornament is made from agate; this is of triangular shape, with a ring at the top formed from the one matrix. In the market at Kano tawdry imitations in glass are sold. The distinctive equipment of a man is, in addition to the veil, a broad, straight, cross-hilted sword, a barbed throwing-spear, an oryx-hide shield, and a number of arm-rings of stone.

The usual dress for a woman is a skirt of indigo cloth with perhaps a narrow white stripe in it, and a sleeveless coat. Silver bangles and



FIG. 70. Tuareg of Timbuktu Straus West African Expedition (from photograph by John F. Jennings).

hair ornaments of the same metal are the customary decorations. Despite the injunctions of Mohammedanism, Tuareg women do not veil, but they draw their hoods across their faces in the presence of strangers. The henna plant, which grows in Air, is used for making a red dye for staining finger and toe nails. Kohl is employed for darkening the eyelashes.

In some regions of Air stone-built houses are used, but dwellings are usually more temporary. A hut is quickly made by tying together the tops of palm frond ribs that have been stuck in the ground. On this framework is laid a thatch of coarse grass, while mats provide the walls. In the city of Agades in southern Air many of the houses have vertical mud walls, and flat roofs which are drained by clay pipes. This is a type of architecture commonly found in Egypt, north Africa, and the western Sudan. The roof is reached by a flight of stairs built in the outer wall. In the interior are chambers and courtyards, some of which are reserved for females (Figs. 73, 74, *a*). The most primitive house is one used by nomadic Tuareg, who make a portable structure by stretching ox-skins on poles. A bed, which accommodates the whole family, is made by placing poles on Y-shaped supports and covering the poles with mats. The family sleep on the ground in the dry season. The Tuareg sometimes use tents of Bedouin type made of camel- or goat-hair rugs (Fig. 72).

A Tuareg proverb states that "shame enters a family that tills the soil," nevertheless, agricultural produce is more important than meat in Tuareg diet, and grain is almost as staple as the milk of camels and goats. Negro slaves perform agricultural work, and even in sedentary communities Tuareg women do not till the soil. If force of circumstances makes agricultural interests inevitable, there is always the hope that such employment will be temporary, and that camels will ultimately be obtained. In this social distinction between pastoral and agricultural pursuits among the Tuareg, there is a parallel with the lives of the eastern Hamites whose social standing depends on ownership of cattle.

The principal grains used by the Tuareg are millet and wheat, which are both grown in Air, though a considerable quantity of millet is imported from the Sudan. Crushing in stone querns is the first stage in preparing wheat for cooking, but millet, a softer grain than wheat, is pounded in a wooden mortar. The Tuareg frequently travel where wood for fires is unobtainable; therefore, millet is baked into cakes that are carried on the journey, and for a short excursion

of two days a man provides no more than a mush of millet in water, which is conveyed in goatskin bags. If firewood is obtainable, ignition is accomplished by rubbing a piece of hard wood in a groove of softer wood.

The Tuareg are indifferent potters who attempt no more than the manufacture of coarse red ware, but cooking pots of better quality are imported from Agades. The Tuareg employ a method of cooking which is widely adopted by Arabs and Berbers. A perforated pot is placed over the mouth of a lower pot containing water, which is boiled. The rising steam cooks the wheat or other grain in the upper pot, which contains, in addition to grain, some meat and salt, with seasoning. Meat is a luxury, since the milk of sheep, goats, camels, and cows is required for making cheese, and the animals are too valuable for slaughter. Meat is sometimes cooked under the hot embers of a fire, and, for use when trekking, meat is preserved by soaking it in brine and drying it in the sun.

The Tuareg will eat the flesh of an animal that has died from injury, provided the creature's throat has been cut before it died. Flesh of camels is eaten if this rite has been performed. The custom of cutting the throat of an animal so that the flesh may be ritually clean is of ancient Semitic origin, and the usage has become a part of Mohammedan and Jewish procedure.

Date palms which have been introduced into Air from regions farther north supply an important article of diet. Sometimes the dates are eaten while fresh, but more often they are soaked in water, then pressed into leather receptacles that are tightly sewn. During a journey, the main foods are powdered cheese, dates, cakes of cooked millet, and water; but some nomads can dispense with water for weeks, provided their camels and goats are giving an adequate supply of milk. Churning to make cheese and butter is an occupation for women, who use skin bags as churns. Women also grind grain and do the cooking. Young boys are trained in work of this kind, and to them such tasks are given during journeys. Men make saddles and other equipment, twist rope from palm fiber, and sew water-skins from goat-hide.

Certain trades, for example, that of the blacksmith, are in the hands of specialists, and, no matter what the social standing of a blacksmith may be, he commands respect because of his occupation. With his iron-forging a blacksmith often combines the work of jeweler and carpenter. The former occupation is concerned with the manufacture of silver ornaments for women, while the latter

produces wooden spoons, ladles, bowls, and other domestic utensils. Men of the Tuareg are more skilled than women in making clothes, and this is also true among the Hausa of Kano, where men make the clothing for themselves and for their women. Men make hide shields, swords, arm-daggers, and spears. Shields and spears are falling into desuetude since the entry of modern rifles. Knives and swords are imported from Kano in northern Nigeria. A. Dupuis-Yacouba (1914, 1921), De Gironcourt (1914), and De Zeltner (1914b) all give well-illustrated accounts of Tuareg art and industries. Dupuis-Yacouba deals specifically with the art of Timbuktu. Personal ornaments have been described in detail by Arkell (1935a, b).

Animal life is not so plentiful as to encourage specialization in hunting. The distribution of a round, cane foot-trap used for catching gazelle has been described by Lindblom (1928a). Horses are not generally seen except near Agades, and the chief beasts of burden, apart from camels, are pack-oxen and small donkeys, which are used for local transport. Cattle of the humped species are purchased from the Fulani, who are nomadic herdsmen of the western Sudan. The Hausa have introduced cats. Dogs are plentiful. Chickens are used as food.

These domestic animals are less important than camels, whose ownership is a basic trait in the economic and social organization. Of the genus *Camel dromedarius*, which is the Arabian camel with one hump, many species are to be seen in Air. One conspicuous breed is a tall, sandy-colored camel having great height at the shoulder; these animals are bred in the plateau region of Tibesti, several hundred miles to the east of Air. The Ghati camel is reddish-fawn in color, and because of its massive build it can carry heavy loads. The rough-coated camels that are bred in the Hoggar Mountains are of great height and strength. The large white camels are reared in Air. The Tuareg are able to deduce an astonishing amount of information from camel tracks which give a certain clue to the breed, and every camel owner knows the spoor of each of his animals. *Camel bactrianus*, the shaggy, two-humped Asiatic camel, is not used in Africa.

The resistance of camels to drought depends on the conditions under which they were reared. If accustomed to only small rations of water, the animals will be allowed to drink every third day, and they will go for much longer periods without serious suffering. Yet camels are delicate animals, requiring time for browsing slowly, and they are subject to several diseases. The feet are liable to develop

cracks, and saddle sores are readily formed. Baggage camels cannot travel more than three miles an hour without risk of injury. The care of camels, their breeding, the making of equipment, technique of loading, conduction of caravans, and organization of raiding have formed the core of Tuareg life. Changing economic conditions resulting from European intrusion are militating against the caravan trade, while supervision by French camel corps patrols places a check on desert warfare. Leonard (1894) has written a standard work on "The Camel and Its Management" and useful notes are to be found in the works of MacMichael (1913), Hassanein Bey (1924), and King (1925).

The object of the annual caravan journey from Air to Bilma, a distance of about three hundred miles, is to secure salt, which is traded everywhere in the western Sudan. The route is almost waterless, and since there is no fodder or browsing for the camels, bales of provender have to be carried. The food for the return journey is cached on the outward trip. At present the caravan numbers about five thousand camels, but in time past as many as thirty thousand animals have made the journey. A Tuareg who owns only one camel is anxious to join the caravan, while a wealthy man may have a hundred animals or more. The ambition of all Tuareg of Air is to join in this great enterprise, which is also accompanied by Hausa traders from Kano and Sokoto. For weeks in advance the caravan is assembling in Air, until at last the train of camels, perhaps seven miles long, sets out for Bilma. The daily journey is about forty miles, made at the rate of two and a half miles an hour. A record journey for riding camels was made in the year 1917, when Tuareg scouts who were faithful to the French carried news of an attack on Agades. The journey of two hundred and fifty miles from Agades to Zinder was accomplished in four days.

RELIGION AND SOCIAL STRUCTURE

In religion the Tuareg are Mohammedan, but they are lax and superficial toward their faith. Charles de Foucauld (Bazin, 1923) has said, "Although the Tuareg are Muslims by faith they are very ignorant of Islam and have not been spoiled by it." In this respect the Tuareg differ essentially from the Senussi Arabs of the Libyan oases, and the Teda of Tibesti. These Mohammedans have been evangelized by the fanatical Senussi Mohammedans, who observe the tenets of the faith strictly and have no tolerance of unbelievers. The Tuareg have a code of morality which to some extent is derived from Islamic teaching. Water is not denied to any enemy in the

desert, wells are not poisoned, and palms are not cut down. The Tuareg do not break their bond of peace; they keep their word to those who are permitted to travel through their country, and in warfare certain standards of conduct are observed.

On the whole the life of the Tuareg conforms to the standard of austerity enjoined by the Prophet. The Tuareg do not smoke tobacco, but they chew green tobacco mixed with saltpeter. They are not addicted to alcoholic drinks. Mohammedan sects are divided respecting the permissibility of alcoholic drinks. The Senussi sect forbids coffee but sanctions the use of tea. Injunctions against tobacco are, of course, post-Koranic.

The ceremonial life is not well developed, and rites are of a simple kind. No birth ceremonies are observed, but boys are circumcised in compliance with Mohammedan custom. Marriage ceremonies are performed in Mohammedan fashion, and at death a corpse is buried supine with the face turned toward Mecca. Music and dancing as adjuncts of ceremonies are of a primitive type. An improvised drum is made by floating a calabash in water, or by stretching a skin over a wooden mortar of the kind in which grain is pounded. Another kind of drum is made by stretching a piece of scraped hide over the top of a pottery vessel. There is not much dancing, but solo sword dances are sometimes performed by men.

Political organization comprises a hierarchy of tribal chiefs, village headmen, and headmen of sections within villages. The names of primary tribes begin with the letter "I," and subdivisions are denoted by words having "Kel" as a prefix. The prefix has a geographical significance meaning "the people of." For example, the word "Ikazkazan" denotes one of the main aristocratic divisions, and the names Kel Ulli and Kel Seliufet denote local subdivisions.

The elective principle operates in tribal government, and the annual meeting for the caravan journey to Bilma is the occasion for electing rulers. In this way economic and legislative requirements are made to harmonize. Tuareg government is of the patriarchal Bedouin Arab type, in which a tribal leader is paramount in peace and war; his functions are military, legislative, and judicial. Heads of families unite to form councils, and in each extended family there are several patriarchal chiefs, each having authority over a household. This is a Semitic, but not the oldest type of Semitic organization. Among the Tuareg, claims of personal ascendancy are strong, and individual initiative is often concerned in making or breaking alliances between tribes. Some political liaisons are formed only to

give strength in war but others are of a more permanent character; yet all are disturbed and curtailed by the superimposed European system of administration.

In contrast with the patriarchal system are customs that are distinctly favorable to the prestige of women. Tuareg women are strong-minded, gifted, and intelligent; they have dignity and modesty. Contrary to Mohammedan practice, women may own property; they take part in tribal councils, and, among the Kel Geres, they rule several villages. Polygyny is permissible, but monogamy is the more general practice. Among tribes who still preserve T'ifinagh, the script in which Tamashek, the language of the Tuareg, is written, women teach their children to write. Girls show great independence in making their own betrothals, and it is not unusual for a girl to take an all-night ride on a camel to see her lover. The traveler, Ibn Batuta (A.D. 1325-54), was shocked at what he considered to be the immodesty of Tuareg women, for on entering a house he came into the presence of a young and beautiful woman, who, regardless of the absence of her veil, "laughed at his embarrassment instead of blushing with shame." A Tuareg idea of the status of women is expressed in the saying, "Men and women are for the eyes and the heart, and not only for the bed."

Divorce proceedings follow the Koranic precepts, but adultery is uncommon and prostitution is discountenanced in Air. In Agades, where Tuareg mingle with Hausa, Kanuri, and other tribes, irregular sexual relations are more usual than in a purely Tuareg community. At Bilma a guild of women is a band of professional prostitutes, but Bilma is a place of Tuareg caravan trade and not a place of Tuareg settlement. Infanticide does not exist, but the death rate among children is high; there are no midwives and no medicine-men. Female friends assist delivery by massage, and death in childbed is said to be rare. Children are well disciplined and industrious.

The Tuareg say that because of the period of pregnancy, children belong to their mother by prior right, and the father's claim to his offspring is secondary. If a woman marries outside her tribe, the children belong to her kindred and not to the kindred of her husband. Moreover, if a man has married a woman from a tribe other than his own, and his wife survives him, she returns to her own tribe, taking her children with her. Motherless children are returned to the kindred of their deceased mother, and, if a woman is divorced, she returns to her own tribe, taking her children with her. If war breaks out between two tribes, some of whose members have intermarried,

the women and their children return to their own tribes until hostilities are ended. The position of a slave woman, who is usually of Negro extraction, is different. She and her children are permanently part of the tribe into which they enter, by sale or by marriage. Descent is reckoned through females, and if an aristocratic Imajegan has taken a wife from the slave class, or from a tribe inferior to his own, he will have difficulty in securing recognition of his children as part of the Imajegan. The offspring are usually classed as Irejanaten, that is, the "mixed people."

Recognition of descent through females affects inheritance and succession. Ibn Batuta pointed out that the heir of the Sultan of Tekadda was the son of the ruler's sister, and the same law of succession prevailed at Ghat. F. R. Rodd says (1926, p. 152), "It seems clear that before the advent of Islam, which has tended to modify the system, the Tuareg had a completely matriarchal organization." The Tuareg resemble the Kababish in this combination of an old Semitic matriarchal system with a more modern Semitic and Mohammedan patriarchal régime.

The Tuareg present a picture of nomadic life of the desert based on the rearing of camels and the organization of long-distance caravans. A complementary organization is seen in the lives of sedentary agriculturalists, but these constitute the lower social class. Arts and industries are only moderately well developed. Social organization combines distinct features of systems based on male and female primogeniture respectively, and the two systems are made to harmonize. The religion is a moderate form of Mohammedanism.

According to F. R. Rodd, the Tuareg have fought with a losing hand. They have been driven from the north by Arabs and harried by everyone. At last, European force of arms has prevailed, and in wars with the French many Tuareg have perished, while others have been punished and reduced to poverty. Yet the pride of the Tuareg endures, and they console themselves with the adage, "It is wise to kiss the hand you cannot cut off."

THE TIBESTI PLATEAU

The Tebu (Tibbu) and the Teda are the principal tribes inhabiting the plateau of Tibesti; these tribes are hereditary enemies of the Tuareg. Their physique is Hamitic with a Negro mixture. The languages are ancient Berber (Hamitic) with some Sudanic Negro elements added, but no satisfactory record has yet been made, and the plateau is imperfectly known ethnologically and in other respects.

Buchanan (1926) gives excellent photographs of the Tibbu. Réquin (1935) has described the clans of the Teda, and Noel (1920) has given some ethnological notes on this tribe. MacMichael (1912b) has supplied information on the Zaghawa, who are related to the Teda and Tibbu.

The Tibbu are camel breeders and caravan men whose journeys take them east to the Libyan oases of Kufra and Ouenat, and southwest to Lake Chad. Part of the population is sedentary, and between this section and the nomadic element there exists a complementary economic life, as among the Tuareg of Air.

In Tibesti the usual dress of north African Mohammedans has been adopted. Men wear a turban wound several times round the head, passed under the chin, and sometimes made to cover the lower part of the face. The main articles of clothing are a loose, wide-sleeved smock, wide trousers, and sandals, with perhaps the addition of a sheepskin mantle. The plateau rises in places to a height of ten thousand feet, and this elevation, combined with a desert environment, causes extremes of temperature between night and day. Amulets and charms are of the usual Mohammedan type, consisting mainly of leather satchels containing written excerpts from the Koran. These are worn on the upper arms or around the neck. The weapons are a barbed javelin, an arm-dagger, and a throwing knife.

Women wear loose robes of blue cloth made fast at the left shoulders, and, like the men, they are well armed, since family blood-feuds of Tibesti are bitter and enduring. Men shave their heads, but women part their hair in the middle and allow it to hang low on each side of the head. Each plait ends in a ball of hard wax. Women perforate their ear-lobes and the sides of their noses to receive silver studs. Scarification is not extensively practiced, but between the ages of five and twelve months the shoulders, bellies, and breasts of females are ornamented with cuts. Scarification is a Negro custom, but the common Negro practice of mutilating the teeth is not followed in Tibesti. Finger nails of women are stained with henna, and kohl is applied to darken the eyelids and eyelashes. Both boys and girls have their heads shaved, and young girls go naked except for a waist-band and a small leather apron ornamented with cowrie shells.

The dwellings ordinarily used are movable structures made of mats, but Denham and his companions reported the existence of rock shelters which were reached by ladders. These retreats proved useful during raids made by bands of Tuareg.

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The Teda and the Tibbu are strict Mohammedans, with a deep mistrust of foreigners. Burial is of the Mohammedan type with the face of the corpse turned toward Mecca, and a *marabout* (Mohammedan saint) is engaged to recite from the Koran during the obsequies.

Circumcision is practiced on boys between the ages of eight and fourteen years, and girls suffer the operation of clitoridectomy during infancy. Marriage ceremonies are intricate; the formalities include presentations from the groom to his parents-in-law, and arrangements are made for the bride to receive a dowry of camels from her father. Marriage rites begin with a fight, in which the bride's relatives attempt to prevent the groom from taking the bride from her kindred. P. Noel (1920) states that the fight is a real one, in which the bride's home is wrecked. The bride spends the first night of married life in the home prepared by her husband, but her spouse is not present.

Next day the husband takes possession of his home. He kills a camel or a goat, according to his circumstances, and the meat is divided between the two families. The marriage is consummated that night, and next morning the bridal mat is displayed on the roof. During the following seven days the bride is secluded, without permission to see or speak with anyone. The levirate is practiced, and in compliance with this custom a widow who has completed her period of mourning is married by a younger brother of her dead husband.

In physique and language the Tibbu and Teda differ from the Tuareg. Both have adopted the Mohammedan religion, but the inhabitants of Tibesti are stricter than the Tuareg in their religious observances. Like the Tuareg, the Tibbu and Teda are primarily concerned with breeding camels for caravan trade, but a sedentary population supplies agricultural produce, including dates. Milk from camels and goats is a staple of diet. The cultures, despite differences, are homologous, since both have similar environmental conditions to which the inhabitants have made the same kind of adaptations.

Another instance of a desert culture based on the breeding and use of camels in caravan trade may be observed in the Libyan Desert. Here are situated several groups of oases, with long intervening stretches of barren, waterless desert. The line of oases nearest to the Nile includes Siwa and Kharga; then farther out in the desert are Arkenu, Kufra, and Ouenat. These oases are situated on

an ancient and important caravan route from Darfur and Kordofan to northern Egypt, but as a result of French and British interference with slave traffic the prosperity of caravan trade has declined.

THE LIBYAN OASES

The geographical background of Bedouin life in the Libyan Desert has been described by several explorers (section IV). Hassanein Bey (1924, p. 29) states that although the desert can be beautiful and kindly it is at other times overwhelming in its cruelty.

"It is when your camels droop their heads from exhaustion, when your water supply has run short and there is no sign of the next well, when men are listless and without hope, when the map you carry is a blank because the desert is uncharted, and the guide when asked about the route answers that God knows best—then the Bedouin, having offered his prayers that remain ungranted, sinks down on the sands, draws his *jerd* around him and awaits death with astonishing equanimity."

But if the desired oasis is reached, the caravan rests among wells, palms, and gardens. Food is abundant, and from a condition of extreme privation the traveler passes to one of plenty. The domestic animals of the oases are camels, sheep, horses, and donkeys. Articles of diet are mutton, chickens, butter, eggs, rice, tea—the two last items importations from the Mediterranean seaboard. In Kufra a system of irrigation produces maize, bananas, grapes, and barley. This agricultural background is much richer than that of the Tuareg of Air or the inhabitants of Tibesti, and the demand for imports is correspondingly greater. Therefore, caravan trade is stimulated.

Within the oases the chief activities are cultivation, care of domestic animals, and industries that include manufacture of leather goods, baskets, and mats. The nomadic population is concerned entirely with caravan trade relieved by periods of rest in the oases. Reliable guides for long-distance journeys are few, and great honor is accorded to competent leaders. Interests and occupations of caravan men center in their camels. In addition to making equipment the men must care for the animals. Leather pads are sewn on the feet of footsore animals, and surgical operations are performed to relieve a disease known as "blood in the head." The Bedouins of the Libyan oases appear to have some affection for their camels, for a Bedouin, though tired, will sit by a sick camel and attempt to alleviate its suffering by playing for hours on his thin

reed pipes. When extolling the sagacity of camels, the Bedouins say that a young camel may truly claim "that if my mother drinks from a well while I am still in her womb, I could travel days to come back and drink at the same well."

Most of the Bedouin Arabs of the Libyan oases belong to the Senussi brotherhood of Mohammedans. Hassanein Bey describes the Senussi as "a religious order whose leadership is hereditary, and which exerts a predominating influence in the lives of the people of the Libyan Desert." The founder of the order was Sayed Ibn Ali El Senussi, who was born in Algeria A.H. 1202 (see p. 390), which approximates to the year 1790 in the Christian calendar. He and his successors attempted a purification of Mohammedan belief and ritual. The leaders were distressed by the laxity of the Bedouins in failing to observe the fast of Ramadan, and in their substitution of a sacred stone (Kaaba) in Cyrenaica for the authentic stone to which pilgrimages should be made; this is situated at Mecca. The brotherhood founded schools called *zawias* from which trained teachers named *ikhwan* were sent to proselytize the Bedouins of the Libyan oases, the Teda and Tibbu of Tibesti, and the Tuareg. During the World War, the Senussi played an important political rôle in inciting Bedouins and Tuareg against the Italians and the French. In the year 1917, Sayed Idris, the head of the Senussi, whose headquarters are in the oasis of Jagabub, made a compact with the Italian government which gave him the administration of Kufra Oasis. In 1931 the Italian forces took punitive measures against the inhabitants of Kufra, which is now under Italian administration.

Hassanein Bey reports that the Senussi were reserved and suspicious toward him, although he is a Mohammedan with command of the Arabic language. Rumor stated that he was a spy, and at no time could he make open use of his theodolite and other instruments.

In common with most Mohammedans the Bedouins have an accretion of beliefs, some of which are early Semitic and pre-Mohammedan. *Jinns* and *affrits*, the demons of Arabian folklore, are thought to live under the direction of the *sheikh el affrit*, the master of the demons. The rock drawings of Ouenat and even the desert itself are attributed to these demons. The desert is called *belad esh Shaytn* (country of the devil). Divination and omens are seriously regarded, and the evil eye is feared. Belief in a spiritual force called *baraka* is an element of religious life.

The social organization is strongly paternal, with succession, descent, and inheritance in the male line. Social distinctions are

strongly observed, some tribes being high in the social scale and others low. Dress, ownership of property, and ostentation support these distinctions. Families of importance have marks of ownership (*wasmat*) that are branded on camels. Women are veiled, but they are kept in seclusion only in the highest social classes. Girls are married at the age of fourteen years and boys when a few years older. Family and tribal blood-feuds are perpetuated.

Negro slaves who were imported from the Sudan are well treated, and the slave classes think it better to serve a rich man than to have their freedom. A wealthy master shows his opulence by keeping his slaves well fed and gaily dressed. The treatment of slaves with respect to marriage, concubinage, inheritance, and the status of children is determined by Koranic teaching. The speech in these oases is Arabic; so also is the script used by educated men.

Many minor customs are typical of Bedouin life in Arabia, Egypt, and north Africa. A salute is given by charging horsemen, who advance in line at the gallop, then pull their horses onto their haunches. Another courtesy is firing into the air to give a salute. Entertainments include a burlesque play known as a *fantasia*. Music and dancing, together with songs of love, war, and caravan journeys, are part of the intellectual life.

Ceremonial meals are offered with lavish hospitality and great formality in serving the courses. Tea must be drunk with a sucking noise to show appreciation. A guest is fed by his host, who picks out pieces of food with his fingers and offers them personally. A host may light cigarettes and offer them to his guests. Violent belching during the meal is an expected mark of appreciation.

SUMMARY

Examination of the cultural patterns of Tuareg, Tibbu, and Bedouin Arabs of Libya has shown a typical picture of Saharan desert life, which is centered in the rearing of camels for warfare and caravan trade. Each of the tribes considered has nomadic and sedentary aspects of culture which are mutually dependent. Mohammedanism prevails throughout the areas considered, but with varying intensity. Many pre-Mohammedan traits of ancient Semitic pattern are functioning. Economically, socially, and spiritually, the Saharan cultures provide an example of homologies arising from use of camels and the necessity for adaptation of social patterns to environmental conditions. The Saharan cultures distinctly show the effects of a mingling of aristocratic Hamites and Semites with their Negro slaves.



FIG. 71. Ba'ij Bedouin, near Kish, Iraq (from photograph by H. Field).

V. SEMITIC AND MOHAMMEDAN ELEMENTS

THE ARABIAN BACKGROUND

Before the study of Semitic and Mohammedan cultures in Africa is attempted, some acquaintance should be made with works describing these cultures in Arabia, the place of their origin.

Among the older books Robertson Smith's works (1889, 1907) seem to give the general social, religious, and economic background of early Arabia before A.D. 571. Doughty's "Arabia Deserta" (1888, 2nd ed. 1920) is a well-known classic, a masterpiece of descriptive writing which gives life and atmosphere to Arab culture.

Hogarth has written "A History of Arabia" which deals with a knowledge of the Semites from A.D. 570 to the year 1914. Hogarth describes the fertile corner of southwest Arabia where the Minaean and Sabaeen civilization flourished, but by the time of Aelius Gallus, who penetrated the hinterland of the Yemen in the year 26 B.C., the culture was dead and the desert had reclaimed the site.

The work of J. Hell, translated from the German by S. Khuda Bukhsh (1936, pp. 94-121) is a student's most valuable source for obtaining a brief account of all that is really important concerning the history of Arabs in north Africa. Considerable information is compressed into small compass.

For recent research in southern Arabia, B. Thomas (1929) should be consulted. Bedouin life has been well described by G. W. Murray (1935), Kennett (1926), Musil (1928), and in a short article by H. Field (1931). These writings will give a complete account of the type of Arabian and Egyptian Bedouin culture that has penetrated the oases in the hinterland of north Africa from Sinai to Mauretania.

Irving's (1911) "Life of Mohammed," and Margoliouth's (1911) small textbook of Mohammedanism give all that is really necessary for understanding the social, religious, and economic aspects of Mohammedanism. The penetration of Islamic beliefs and practices into Negro tribes has been described by André (1924), in "L'Islam noir," and Spanish Islamic traits are the subject of a work by Dozy (Stokes's translation, 1913). For more advanced study, R. Levy's (1933, 1935) volumes, "An Introduction to the Sociology of Islam," will prove sufficiently comprehensive.

In the following pages of this section three fundamental divisions of Semitic culture will be described, and these correspond with the course of reading just outlined. Primarily, there is the basic Semitic

culture of unknown duration, long antedating the rise of Mohammedanism in Arabia; secondly, we have to recognize the cultural wave of Semiticism and Mohammedanism which swept northern Africa under the stimulus of the new religion of the Prophet; and, finally, a survey must recognize cultural accessories that tend to move with Mohammedanism without having any original or logical connection with that faith.



FIG. 72. Bedouin tent, typical of Arabia and north Africa (from photograph by H. Field).

THE KABABISH

The tribal life of the Kababish of Kordofan will serve to illustrate essential points in the social pattern of early Semitic life in Arabia. C. G. and B. Z. Seligman (1918) point out that in Kordofan the geographical conditions are so similar to those of Arabia that environment has demanded little change in the mode of life which was characteristic of the ancient Semites in Arabia. This pastoral culture, which includes the breeding of camels, is typical of Arabian Bedouins of the present day, and in culture the Kababish resemble the Hamitic Beja of the Red Sea Province. The Kababish have Arab blood, mixed with that of their Negro slaves. There is also evidence of a mixture of Hamitic physique, and linguistic study shows

resemblances between the Arabic of the Kababish and the Hamitic speech of the Beja.

ECONOMIC CONDITIONS

Although the Kababish esteem camels as a criterion of wealth, as beasts of burden, as a source of milk supply, and for sacrificial purposes on ceremonial occasions, the general culture of the Kababish differs in several essential ways from that of the camel-keeping Tuareg, Teda, and Senussi Arabs of the Sahara.

In the parts of Kordofan inhabited by the Kababish, rainfall, though local and uncertain in quantity, is sufficient to encourage the breeding of cattle, sheep, goats, and horses. In this pastoral nomad-



FIG. 73. North and west African architecture, Kano, Nigeria.

ism of the Kababish there is a blending of the Saharan camel culture with the pastoral life of Hamitic east Africa, and the two elements combine to give a social pattern which closely resembles Bedouin life, both ancient and modern, in Arabia. Geographical determinism is important in connection with a study of the social and economic life of the Kababish. During the period from July to September grass is plentiful, and the tribes of the confederacy are widely scattered. To prepare for drought the sheikh of each section sends out scouts to find water, which is to be found as subsoil reservoirs

at low levels long after the surface has become parched. The Kababish then divide, so accommodating their social organization to economic needs in a way described in the Old Testament.

Camel foals are born in the wet season, and when after a few months, they are able to run with the herd they are called *mafrud*. Other names are used to designate animals of two, three, four, and five years of age. For three years the milk teeth persist, but in the fourth year permanent teeth appear, and the second dentition is complete in the fifth year. Camels are not fully grown until their sixteenth year, but at the age of five years they are regarded as workable. The duration of life is not usually more than forty years.

The branding of camels is important as an indication of family histories, for when two persons marry and their herds are mingled the brands give a record of this union. The general name for brands is *wasmat*, but each mark has its own name and a form that indicates ownership and locality. H. A. MacMichael (1913) points out that the surprising knowledge of camel owners is due to careful observation and accurate memorizing of the brands.

In connection with the rearing of camels and other live stock several industries are important, and these have been described and well illustrated by Meinhof (1916). Making leather trappings is a staple industry; each item has a name, and some of the objects are ceremonially used. Tanning has a well-developed technique for removing the hair, for washing, scraping, and soaking in a tanning solution containing extract from acacia seeds. Water-skins and leather buckets for drawing water from wells are two of the important items made from hides of sheep and goats. Two articles of equipment are the *utfa*, an enclosure in which married women travel, and the *tonkoh*, which is used by a senior unmarried daughter. These structures are adapted for strapping on the backs of camels. The *utfa* has formed the subject of an article by A. E. Robinson (1931).

Roofs of tents are constructed of camel-hair rugs (Fig. 72), which are made more protective against the heat by using with them rugs of sheep's wool and goat-hair. Thread spun from the hair of camels, sheep, and goats is woven into blankets and clothing on a primitive loom worked by women. This is a type of loom having a wide distribution among Bedouin Arabs of Africa and Arabia.

Making baskets from fronds of the dum palm (Fig. 9, b) is carried out by a coiling process, and after the coils have been stitched together cowrie shells are added for ornament. Dyes of attractive colors are made. Typical industries are the manufacture of mats,

rope, and jointed woodwork without nails. From hard woods of the semi-desert, wooden cups, bowls, and platters are made. Pottery vessels are purchased from itinerant vendors. Sites of old iron-workings may be seen in northern Kordofan, but the iron industry is now defunct. Spearheads are purchased from Omdurman, or they are made by itinerant blacksmiths.

The food supply is derived from animals. Camels' milk is drunk by men, cows' milk by women, and goats' milk by children. Butter is made by shaking milk in a skin vessel along with a little sour milk; the liquid is then allowed to stand for twenty-four hours. Tea and coffee are purchased from Omdurman. The use of camel's flesh as food is restricted chiefly to ceremonial occasions, but mutton is a regular article of diet. Dried dates and partly baked unleavened bread are two principal articles of diet. Beer is made from the grain durra, which is the principal crop of the eastern Sudan. Only a small amount of cultivation is practiced; therefore, grain is purchased from neighboring sedentary tribes.

With the exception of the gazelle, which is captured by a round foot-trap, Kordofan harbors little game, though sixty years ago ostriches were common, and giraffes were hunted.

Warfare has declined, but in earlier days conflicts arose from disputes concerning rights to wells and pastures. The conquerors spared none of the men who fell into their hands, and all slave women, together with live stock and equipment, were the property of the victors. The Nurab, a section of the Kababish, used to have chain mail and quilted armor. These are in use today at Potiskum in northern Nigeria (Fig. 75, *b*) and at Niamey on the River Niger. Connected with warfare and horsemanship is the *fantasia*, which includes riding at the gallop and pulling up suddenly, also firing from the saddle. This custom prevails in Libya and Morocco. Songs alluding to battle and the prowess of the Kababish are composed by women, who chant them in praise of the warriors after the manner described in Old Testament history.

SOCIAL AND RELIGIOUS LIFE

The Kababish are divided into sections and subsections, each of which is ruled by a sheikh who has inherited the right from his father. Superior to these rulers is a paramount sheikh who imposes taxes, and to whom appeals can be made against the legal decisions of minor rulers. In harmony with this hierarchy of chiefs, there exists a customary mode of travel and an arrangement of the camping ground according to rank.

Responsibilities of the chiefs of subtribes, and of heads of families are concerned with blood-feuds. A system of communal responsibility exists, and every male of a community in which a blood-feud persists is, at least theoretically, in a state of war. The honor of a community is at stake until retribution for murder has been exacted either by taking a life or by securing blood-money. The old Semitic practice of taking sanctuary from an avenger prevails. Among the Kababish a man who flees from revenge may take refuge at the tomb of a saint, and the avengers must wait outside the enclosure until an agreement is made respecting the compensation. The power and responsibility of males under the patriarchal system is shown by their right of inflicting capital punishment in the family groups over which they rule. Should a man discover that his sister had become pregnant through adultery in the absence of her husband, he would kill her. But a woman's protectors are her brothers, who would begin a blood-feud if their sister were killed in this way.

The Kababish regard a marriage between the children of two brothers (ortho-cousins) as the best form of union. This is contrary to the custom prevailing among many Negro tribes, who favor cross-cousin marriage. Union between fathers' brothers' children, or between mothers' sisters' children is regarded as incestuous under many typical Negro systems; but marriage with a mother's brother's child or with a father's sister's child is usually permitted, and even enjoined. The kinship terminology of the Kababish makes use of specific terms, one for each relative; this has been called a descriptive system. Negro tribes often employ a classificatory system in which one word denotes a group of relatives. For example, the Ovimbundu of Angola use the word *nawa* for all the in-laws of the speaker's own generation, and the word *ndatembo* indicates the in-law class of generations both older and younger than the speaker.

Government by males, bequest of property in the male line, and succession to office through male lineage are characteristic of the Kababish, but traces of an older matriarchal and Semitic system may be observed. A bridegroom erects his tent near the dwelling of his bride's father, and usually this tent is not transferred to his own encampment until a year after the wedding. A strong influence of the wife's family persists, and a mother-in-law may refuse to have her married daughter taken far from home. In tents of the wealthier men are many female relatives of their wives. C.G. and B.Z. Seligman suggest that the present Kababish custom of mother-in-law avoidance (which also prevails among many Negro tribes) was a custom

of ancient Arabia, though evidence on this point is not conclusive. When a child is born, the father is called to the tent at the time when the umbilical cord is cut; this custom may be a survival of the transfer from mother-right to father-right.

The laws of inheritance among the Kababish suggest a blending of customs of early Semitic Arabia and the operation of Mohammedan law. A man's property is bequeathed to his sons or his brothers according to old Hamitic-Semitic custom, but Koranic law requires that some property shall be inherited by the wives and daughters of the deceased. Divorce is obtained according to Koranic law, and, though divorce proceedings are usually originated by a husband, a wife may institute proceedings by returning to her father and taking her young children with her.

The position of women among the Kababish is far from servile, and in the wealthier sections they do no manual work. But in sub-tribes who are without slaves the women grind grain, tend cows, and make butter. Women do not veil as orthodox Mohammedans should, but they draw a head-cloth over the mouth in the presence of strangers. Free women are not carried off in war, for adultery is against Koranic teaching. The rights and social status of slaves and their children are determined by Koranic law.

Treatment of children indicates a mixture of Mohammedan and pre-Mohammedan custom. Scarification, which is forbidden by the Koran, is practiced by the Kababish and other Mohammedan tribes of Kordofan, who make tribal marks. The heads of boys and girls are shaved by their paternal uncles when the children are seven months old, and at the time a sheep is sacrificed. The shorn hair is worn by the children in the form of girdles. Boys are circumcised between the ages of seven and nine years. This is a compulsory Mohammedan rite, but it is one that was practiced in Egypt four thousand years before Mohammed was born. To perform the ceremony the boy's foreskin is pulled through a hole in a piece of gourd. The foreskin is then tied tightly with thread, and after this operation a procession with musical instruments is led round the camp. At the conclusion of the parade excision of the foreskin is performed.

A drastic operation performed on the sex organs of girls is older than Mohammedanism; possibly the custom was part of the ancient Semitic and Hamitic culture. This process of infibulation, which is performed between the third and the sixth years, results in a reduction of the orifice of the vagina to such an extent that before

consummation of marriage an incision has to be made, and cutting is again necessary before childbirth. To prevent closing of the urinary meatus a small plug of wood is inserted until the surrounding scar tissue has formed. The operation results in removal of the external genitalia, including labia majora and mons veneris. Rites of circumcision for boys and various operations on the sex organs of girls are common in Negro tribes, both Bantu and Sudanic. Such rites are also characteristic of some northeastern Bantu tribes, perhaps as a result of contact with eastern Hamites.

Betrothal takes place between the ages of nine and eleven years, and marriage perhaps three years later. At the wedding feast, camels and sheep provided by the groom's father are killed and eaten; then a feast follows, with singing, dancing, and a *fantasia*.

The prevalence of the Mohammedan faith is attested by the wearing of leather charms containing extracts from the Koran, or a little hair from a saint. The word *baraka*, a spiritual power which has been carefully described by Westermarck (1933) is used by the Kababish, as it is by the Libyan Bedouins and the Moors, to denote spiritual force, power, and blessing. *Baraka* is associated with holy men, and after their death this power is transmitted to their tombs and to fragments of their clothing. *Fekis* or holy men are consulted and paid for their enchantments, which include power to locate thieves and to make wandering camels return. The Kababish believe in lucky and unlucky days, which are distinguished by the aid of a *feki*. It is thought that some persons are born with an evil eye, whose glance may cause calamity. In view of their Semitic and Mohammedan culture the Kababish are exceptional in the absence of beliefs and stories connected with *jinn*s, *affrits*, and *ghuls*, who are the monsters of Arabian folklore and the demons of the Koran.

Burial is performed after the Mohammedan fashion, with the face of the corpse toward Mecca. A funeral feast is prepared one year after the burial, and on this occasion two she-camels, property of the dead man, are killed. The flesh is eaten by all except near relatives of the dead. The finest camels and horses of the deceased are paraded in their best trappings as part of the funeral ceremony.

Examination of the cultural pattern of the Kababish tribe has served to show a blending of early Semiticism with orthodox Mohammedanism. Before Mohammed, Semitic life in Arabia had produced definite religious beliefs and practices, including a belief in Allah as a creator and a supreme god. Accompanying these theistic concepts were beliefs in demons who inhabited trees, stones, and

serpents. In the Kaaba or temple at Mecca 360 figures constituted a hierarchy of minor spiritual powers against which Mohammed directed his invectives. Semitic rites included a blood-brotherhood compact formed by sucking each other's blood, or by mingling the blood on a sacred stone. Expiatory sacrifices were common, and these included human sacrifice, also offerings of camels and cattle. The Semites regarded cattle as sacred animals to be killed for food only in times of dire need, and the butcher was regarded as unclean.

Infanticide, which Mohammed discouraged, was a Semitic practice. Blood-feuds, blood-money, and the right of sanctuary were part of the Semitic social system. Relationship was reckoned in the paternal line and patriarchal conditions prevailed, but these had been preceded by a matriarchal state of society. The Semites observed many avoidances, including unclean animals and contacts with menstruating women. Reverence for holy places, offering first-fruits, worship of animals, and the use of a scapegoat for bearing away the sins of the people were part of the ancient Semitic cultural pattern. On this complex of Semitic beliefs and practices was grafted orthodox Mohammedanism, which officially rejected some pagan rites and concepts while incorporating others, and adding new ideas and ideals. Semitism became institutionalized and consolidated into a force that has swept through north Africa and eastward through India into China.

MOHAMMEDANISM

Mohammed, who was born in the year 571 of the Christian era, sought to remedy the abuses of his time by denouncing all divine powers except the supreme Allah. The creed, "There is no god but Allah, and Mohammed is his Prophet," forms the basis and the initiatory declaration of the Mohammedan faith. Trial by ordeal, cannibalism, infanticide, human sacrifice, and wooden idols were all proscribed, and in later times various sects introduced prohibitions of their own against alcoholic beverages, tobacco, coffee, and representation of human and animal forms in art.

An abstemious life was enjoined by the Prophet, and in compliance with this requirement all true believers now annually observe the fast of Ramadan; this is a movable festival lasting from a certain new moon to the appearance of the next new moon. During this fast no food may be consumed between sunrise and sunset. Mohammed ordered his followers to pray five times a day, and to precede the prayers with ceremonial ablutions. The giving of alms,

circumcision, rules for warfare, and making a pilgrimage to Mecca are all important requirements.

The Koran (Rodwell's Translation, 1909) gives a description of paradise as a fair garden of streams and fruit trees, where attractive women minister to the needs of the faithful. A graphic description of the torments of hell is the antithesis of this picture of paradise. Many stories of the Koran are taken from the Old Testament, which has contributed the story of Joseph, the Fall of Man, and the Deliverance of the Jews. From the New Testament, extracts relating to the Virgin Mary, Jesus, and the Apostles have been adopted. The religion of Mohammed is monotheistic, yet the Koran recognizes minor spiritual powers both good and evil; benevolent angels guard against the machinations of demons. The Koran teaches the value of humility, gentleness, patience, return of good for evil, truthfulness, adoption of orphans, care of the sick, and avoidance of malice. As with other religions the precepts are excellent, but the practice is often negligible. Mohammedanism is popularly coupled with fatalism, but in the recognition of Allah as supreme ruler of the lives of men Mohammedanism is not inherently more fatalistic than Christianity.

Behind the religious concepts of Mohammedanism lies a political theory that the Caliph as God's representative on earth is the head of an undivided Islamic state; but in practice deep rivalry has existed between political and religious divisions. The main sects, which are divided on points of theology, law, and ritual, are the Hanifites, Malekites, Hanbalites, and Shafeites, which are named after their founders. Of these schisms only the Hanifites and the Malekites are important in Africa.

For all sects the Koran (the reading) is the supreme source of law, but disputes have arisen concerning the interpretation of passages. According to Mohammedan law, forcible conversion by warfare and the capture of slaves are legitimate practices. Slave raiding of Arabs among Negroes was accompanied by cruelty and forced marches, followed by sales that separated the members of families. But domestic slaves, when fully incorporated into a Mohammedan household, found reasonably kind treatment. They often rose to high rank, and a woman who had borne a child to her master could not be sold. At his death, the woman and her child became free.

The Mohammedan criminal code has been harsh in its adoption of punishments by mutilation, and in the maintenance of foul



FIG. 74. a. House in Kano, Nigeria, north African Mohammedan style. b. Musicians at Ilorin. On left, player of *algaita*, a north African instrument.

prisons for debtors and malefactors. But in this respect Mohammedanism is no more reprehensible than Christian Europe in the Middle Ages, and later.

Polygyny and concubinage are part of the social system, and women are at a disadvantage under Mohammedan divorce laws; but in Turkey and Egypt modern movements for the emancipation of women have recently advanced the social standing of females. In order to keep property within a family, marriage between the children of two brothers is favored. Bequests are made in the male line, and succession to office follows the same lineage. The levirate, by which a man marries his deceased brother's widows in order to beget children for him, is an ancient Semitic custom which was practiced by the Hebrews, and the usage still operates under Mohammedan law. Inheritance of a brother's widows is a frequent practice among Negro tribes, but the origin is not known to be Semitic, and the Negro institution may be of independent origin.

In addition to these main characteristics of Mohammedanism, several secondary usages, beliefs, and economic patterns should be considered. The Prophet met with determined opposition which caused his flight from Mecca in A.D. 622, from which date Mohammedans make their historical reckoning. Therefore, events have different dates in the Mohammedan and Christian calendars. The Mohammedan year has a length of 354 days, 8 hours, and 48 minutes. Consequently, the Mohammedan year lags behind the solar year about eleven days annually. The Mohammedan year is referred to as A.H. (*Hegira*, the flight), and a formula is used to convert a date A.H. to an approximate date A.D.

$$\text{A.H.} - \frac{3 \text{ A.H.}}{100} + 621 = \text{A.D.}$$

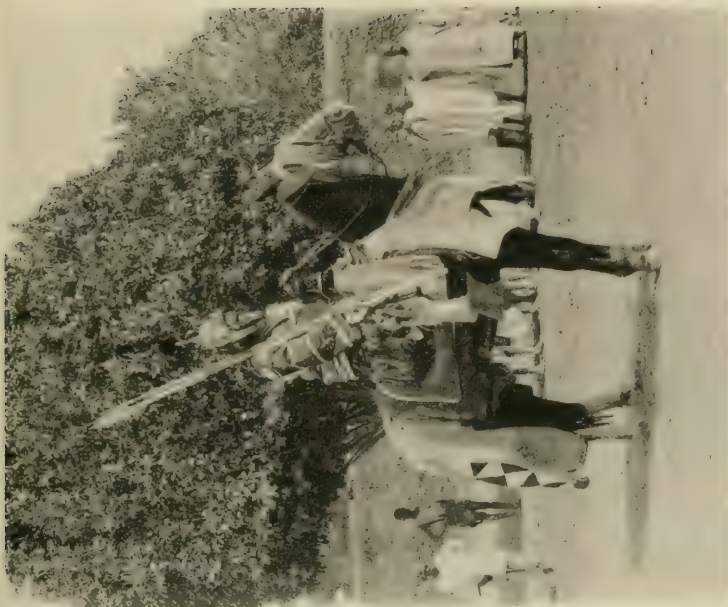
Thus, A.H. 700 is approximately A.D. 1300. A.H. 1329 is A.D. 1911.

A definite pattern of industrialism, which is focused in large markets, is a trait of Mohammedan life. Large bazaars are characteristic of Egypt, Tripolitania, Tunisia, Algeria, and Morocco. On the south side of the Sahara—Kano in northern Nigeria, and Timbuktu on the bend of the Niger—are similar emporia where artisans congregate and caravan trade thrives.

In the markets may be seen water-carriers with their goatskin containers, conjurers, wrestlers, buffoons, snake charmers, story tellers, diviners in sand, Punch and Judy shows, and marionettes. Musicians play pottery drums, instruments strung with horsehair, and wind instruments of the *algaita* type (L. Williams, 1934,



a



b

FIG. 75. African horsemen. a. Dejazmatch Ayalu, ruler in Simien Mountains, Abyssinia (from photograph by A. M. Bailey). b. Horseman with mail shirt, Potiskum, Nigeria.

pp. 77-98, has described Arab music). Itinerant barbers carry their implements in leather satchels which contain cupping horns for bleeding patients, knives for circumcising, razors for shaving, tweezers, and other toilet requisites. On the booths are displayed henna for staining the nails, kohl for darkening the eyes, and perhaps an outfit for tattooing.

In some secluded corner of the market, a *mallam* sits writing charms, or he may be in charge of school children, who are writing Koranic texts on smooth boards, with ink and reed pens. At times they cease writing to chant the texts in unison. Certain sections of the markets are given to particular industries. Leather work for personal use and for use as trappings for horses and camels is a staple industry. Dye pits where indigo of native make is used are often seen, and a section of the market may be given to weavers, who use their own primitive African looms. Metal workers include blacksmiths, silversmiths, and artisans, who expertly beat and cast objects in brass.

With Mohammedanism are associated several distinctive types of architecture in which domes and minarets are prominent features. Interior decoration consists of tiles, mosaics, and geometrical drawing of great beauty and intricacy. Arabic script has contributed to much of the geometrical designing. A discrimination against human and animal forms in art is early Semitic, not specifically Mohammedan. The Hebrews were instructed not to make any image of anything on earth, in the firmament above, or in the sea beneath. Some Mohammedans follow this precept, and art is mainly geometrical, but exceptions occur. The fronts of houses are sometimes elaborately molded (Fig. 74, *a*). This type of architecture has spread from north Africa into the western Sudan. Clothing includes a flowing *riga* for men (Fig. 60, *b*), the use of turbans, and several special articles for women (Figs. 58, 59, *b*). For studying the penetration of material traits of Mohammedan culture into the Sudan, Paulitschke (1885), Gleichen (1905), and Frobenius (1897, 1923) are useful.

In Mohammedanism religious concepts relating to morality, theology, literature, art, and philosophy are associated, as in other religions, with crude fanaticism, which is a degraded form of spiritual expression. The origin of *bori* dancing is unknown, but it is one of the baser elements attached to the Mohammedan faith. The *bori* are said by the Hausa communities of north Africa and the western Sudan to be a link with the world of demons. Each *bori* represents a particular disease, misfortune, or the evil eye, and in the dance of

exorcism men are dressed to represent the *bori* demons (Tremearne, 1913, 1914).

The Hamaches of Morocco beat one another with whips and clubs as they parade the streets chewing thorny cactus, while the tearing and devouring of a living sheep is another of their practices. A *zikk*, as I saw it in the eastern Sudan, consisted of a dance given by men only, to the accompaniment of drums. The performers swayed to the rhythm of the instruments, meanwhile chanting the Koranic creed; this they did until they appeared dazed and intoxicated. Sometimes whipping one another with rawhide whips is part of the ceremony. These practices are comparable to the flagellation and self-persecution of Christian devotees. The exercises are not a necessary part of the religion, but certain sects have become devotees of crude cults and practices.

ARAB-BERBER CULTURE

Consideration of a few details from the lives of Berber communities in north Africa which have a strong overlay of Mohammedanism, will serve to show the general pattern of life. The Berbers are a branch of the northern Hamites, and for the main part they retain their Berber (Hamitic) languages, though Arabic, especially as the official language, is understood and spoken, particularly by men who are engaged in law and commerce.

At the oasis of Siwa, about two hundred miles west of Cairo, there prevails great fear of the evil eye. If a stranger stares at a child, the mother takes sand from the stranger's footmarks, throws this on the fire and holds her naked child face downward over the smoke. Witchcraft, including the use of spells, charms, and love potions, is commonly practiced. The Siwani have a firm belief in the existence of *jinn*s and *affrits*, some of whom have appeared in human form. The people say that in the year 1913 an *affrit* having red eyes and long talons appeared in the oasis in the dress of a Bedouin, who was immediately slain. All sickness is attributed to the evil eye. The Siwani are of early Libyan stock but their own Hamitic language has been superseded by an adulterated form of Arabic. They are Mohammedans of the Senussi sect, having a great aversion to foreigners. The Siwani do not own camels and few know how to take care of them, but sheep, goats, and donkeys are kept. Olive oil is produced in primitive presses, and many kinds of dates are grown, some for home consumption and others for export to Alexandria. Cline (1936) has given a condensed account of the industries,

economic life, religion, magical practices, and social organization. Numerous sketches illustrate the text, and a bibliography is given in form of footnotes. W. S. Walker (1921) deals with linguistic elements and some details of culture. Belgrave (1923) produced an informative travel book. Some references to Siwa are given by Hassanein Bey (1924), and by W. J. H. King (1925).

In southern Tunisia exist many small oases peopled by Bedouin Arabs of the Mohammedan faith (Vivian, 1899). The patriarchal system is carried to its farthest limits so that the head of a family is absolute. Belief in the evil eye prevails, but the malign effects can be averted by saying, "*Tabark Allah*" (May God preserve them). Steaming grain (*kus-kus*) in a perforated pot, and the roasting of a sheep whole are typical culinary habits of the Bedouins. In Tunisia, as well as in Algeria and Morocco, *nargile* water-pipes are used for smoking tobacco. *Kif* is a mild kind of hemp prepared from the flowers of the plant, and used for smoking. *Bang* is a preparation of hemp taken in the form of pills. In the towns are addicts of opium, which is smoked or taken as pills. The festival of Biram is observed; this is a carnival that follows immediately after the fast of Ramadan. Use of the bastinado as a punishment is probably not an Arab but a Turkish introduction. Amusements include marionettes and the *fantasia*. The institutions of blood-feuds, blood-money, and taking sanctuary from avengers are strongly operative. The Bedouin tribes of Tunisia combine agricultural and pastoral pursuits. The latter include rearing of camels and sheep, and the former depends on a primitive system of plowing in which camels are used. Water is drawn from wells in leather buckets, which are hauled up by camels.

Tunisian industries include making dyes, tanning leather, and weaving woolen textiles on a vertical loom. The observations of D. Bruun (1898) remove the impression that ancient Semitic and more modern Mohammedan customs are confined to Bedouin Arabs. He states that the Khrumirs, who are dark-skinned Berbers of Tunisia, pursue the blood-feud unrelentingly, and they will seldom accept blood-money as compensation for a murder. They observe the fast of Ramadan but do not pray; yet great virtue and healing power are associated with the tombs of saints (*marabouts*), whose power is transmitted by the use of small articles that were associated with these holy men. One tomb is noted for the healing of fevers, and another for protection of crops. Most of the Tunisian Arabs are nomads who live in the southern and central regions. The Mohammedan religion prevails, though the faith is adulterated with grosser practices.

From southern Tunisia, and from Murzuk in southwest Tripolitania, coastal caravan trade is linked up with Tuareg caravans that carry merchandise across the Sahara into Bornu. The *utfa* is used by married women who are traveling on camels.

Hilton-Simpson (1926) gives a picture of the lives of Kabyles in the Aurès Mountains of Algeria, and he describes Bedouin life in the oasis of Djemora at the foot of the Aurès Massif. This oasis is the camping ground of the Ouled Ziane, nomad Arabs who wander in winter driving their flocks of sheep and goats over the desert to the southwest of the Aurès. After these excursions they return to their oasis to pick the date crop. In the fertile valleys, peaches, apricots, pears, figs, and olives are grown.

Crude spiritual beliefs prevail under a veneer of Mohammedanism. Feeble-minded persons are regarded as holy, and the evil eye is everywhere feared. Extension of five fingers while saying "*Khamisa fi ainek*" (five in thine eye) wards off the evil glance. The extended hand, sometimes called the hand of Fatima, daughter of Mohammed, is made in the form of silver charms to be worn around the neck (Hilton-Simpson, 1915). Cooking a lamb whole and serving it on a brass tray are typical Bedouin customs. Each guest mutters "*bismillah*" (in the name of God) while helping himself with his fingers. Writing Koranic texts and encasing them in leather satchels is an occupation of the *mallams*. Primitive surgery, including trephining, has formed the subject of an article by Hilton-Simpson (1922). Hildburg (1906, 1913-1915) has shown the extension of Mohammedan magic and charms into Spain.

The study of M. Gaudry (1928) has provided a complete sociological investigation into the lives of Mohammedanized Kabyle women. Women have well-developed arts of dyeing, weaving, and making pottery. Females till the soil; and agricultural rites, some of them of ancient Phoenician origin, are observed. Both men and women may be *marabouts* with hereditary office. Worship includes visits to tombs where prayers are offered, candles are burned, and offerings of food are made. Religious exercises include use of a rosary. Sorcery is widely practiced, and love philters are employed.

The word Moor has no precise ethnological significance, since the term is primarily geographical. In physique a Moor may be a Berber, an Arab, or a mixture of the two, with Negro blood as well. A Moor speaks Arabic or a Berber dialect, or he may be bilingual, using spoken and written Arabic in his work and speaking Berber in his home. Mondadori (1926) has analyzed the composition of the

population of Tripolitania. Berbers in language and custom are 24 per cent of the total population; Berbers who have adopted the Arab language and customs form 31 per cent; Arabs constitute 36 per cent; and the residue of 9 per cent is Jewish and Negroid.

A sound concept of what is meant by "Moorish" culture, in its religious, social, and industrial aspects, may be derived from a comprehensive and well-illustrated study by Meakin (1902). Religious beliefs, magic, charms, folklore, and the blood-feud have been adequately dealt with by Westermarck (1926, 1933, 1934). Coon (1931), also Bertholon and Chantre (1912), have described the Berber culture of north Africa. M. S. Dimand (1930) has produced a comprehensive and well-illustrated summary of Mohammedan art, and P. Ricard (1918) has written a short article on that subject.

Similarities between the Bedouin life of the north African hinterland, Sinai, and Arabia is well demonstrated in the works of G. W. Murray (1935), Kennett (1926), and H. Field (1931). Within this complexity of early Semitic, Mohammedan, and Hamitic factors, traits have intruded from the civilizations of Egypt, Phoenicia, Greece, and Rome.

The only effective way of clarifying the situation is to comprehend the cultural meaning of early Semiticism, to trace out the growth of Mohammedanism from A.D. 600, to find the Berber (Hamitic) elements in the north African cultures, and, finally, to allow for the Phoenician, Byzantine, Roman, and Greek elements of speech, observance, and material culture that have survived.

READING

Berber Civilization.—Perhaps the best account in small compass is that of Bourrilly (1932), who from long residence is able to give an intimate account (in French) of Berber life and customs. Basset's (1910) research into the factors of Berber religious beliefs is a well-known standard work. A. van Gennep (1911) has published detailed and amply illustrated accounts of Berber industries. The ancient and basic traits of Berber civilization are considered by Randall-MacIver and Wilkin (1900) and Bates (1914), in their studies of the ancient Libyans. Renan's (1873) analysis of Berber society is an old classic, and Wilkin's (1900) description of Berber life in Algeria is useful.

The Kabyles.—Many studies of Berber civilization are centered about the culture patterns of various groups of Kabyles. Maunier (1926) has devoted a volume to the description of their

dwellings. Hanoteau and Letourneux (1893) have described customs of the Kabyles. Myres (1902) has given an account of Kabyle pottery. The article of Lissauer (in German, 1908) is well known, and in addition to this he has prepared a brief article in English (1911), dealing with Kabyle customs.

Nomadism.—Hubac (1931) has given a brief pictorial and popular account of Bedouin life in Tunisia (in French). In German, Stuhlmann (1914) has prepared an article on the Mazigh people (South Tunisia). Gautier's (1921) account of "Nomad and Sedentary Folks of Northern Africa" is a brief contribution to this subject. De Agostini, writing in Italian (1917, 1923), has discussed both the sedentary and nomadic populations of Tripolitania and Cyrenaica. And A. van Gennep (1912) has written a brief article on "North African Gypsies."

VI. AGRICULTURE

Consideration of the religious background of agriculture will serve as an introduction to the whole of section III, dealing with Negroes, since the enormous area of Negro occupation (Map 4, Areas 6A, 6a, 6B) is primarily an agricultural zone.

A brief outline of the principal food plants, with notes on their history and distribution, has been given in section I, chap. I; neither is it necessary to deal here with the routine of agricultural operations. Clearing the bush, hoeing, terracing, irrigation, manuring, storing of grain, and preparation of foods will be described along with occupations and handicrafts. Typical dwellings of agricultural Negroes are shown in Fig. 76.

We are concerned here only with a brief account of the spiritual basis of life in agricultural communities. And, provided this fundamental religious factor is understood, the whole social and economic pattern will be explicable. The main beliefs and institutions in agricultural organization are given below:

(1) A religious concept of land as the property of dead ancestors. There may also be an idea of a Sky Father and an Earth Mother.

(2) Spiritual concept of a chief or king who acts as a high priest in agricultural rites.

(3) A medicine-man, who may be an official rain-maker, a preparer of charms to protect crops, an interpreter of omens, and a functionary in supplication and sacrifice. Usually a complex association exists between (2) and (3), but in many communities the different powers and functions are clearly defined.

(4) Division of agricultural labor between the sexes. Local custom varies considerably.

(5) Time reckoning, lunar observations, and agricultural operations are logically connected.

(6) Legal procedure is largely connected with ownership of land, succession, and infringement of rights. Ownership of land is the economic basis of family life and of cohesion in the village community.

A sociological theory of nutrition as expounded by A. I. Richards (1932) develops the thesis that human relationships within a tribe are determined by nutritional needs. "Hunger shapes the sentiments which bind together the members of each social group." By a study of home conditions, the family, infancy, kinship sentiment, the

economic functions of chiefs, and worship of ancestors, the interrelation of parts of tribal life is demonstrated.

Criticism of such an exposition can be directed only against the apparent assumption that one trait is more fundamental than



a



b

FIG. 76. Houses of agricultural Negroes. a. Village scene, Cameroons. b. House with painted walls, near Bailundu, Angola.

another. Admittedly, the tribe must eat to live; biologically speaking, the need for food is basic in society. But just as logically one might entitle the study "Chieftainship," or "Ancestor Reverence," with a view to showing that these factors are absolutely indispensable, since without the blessing of the ancestors, and in the absence of a

chief as intermediary priest, no food could be produced. Fertility of soil and germinating power of seed depend on the chief's blessing of seed, the mixing of his own grain with that of his subjects, and the direction of prayers to ancestors asking for rain. The offering of the first fruits to the gods is again a priestly function without which the efforts of the cultivators would be void.

In a functional study it matters little whether we first analyze the social conditions, the religious beliefs, or the economic structure, for the main aspects of tribal life are so closely related that the probing of one division leads immediately to a recognition of psychological and sociological unity.

The following instances have been chosen from agricultural areas wide apart in order to show the unity of beliefs in Negro communities, despite differences in physique and language.

AGRICULTURAL RITES OF SUDANIC NEGROES

The relationship between land tenure, inheritance of land, and religious beliefs is explained by R. S. Rattray (1923, p. 217). Ashanti laws regulating the ownership and bequest of land are typical of widely spread Negro concepts relating to possession of land and the enjoyment of usufructs. The Ashanti entertain the belief that living landowners hold their land as trustees for their dead ancestors, a fact which accounts for determined opposition to the sale of land, which is required by Europeans. Rattray (1923, p. 203) states that in Ashanti the ceremony of offering first fruits of the yam crop to ancestors is still observed. The festival is connected with recognition of Tano, the greatest of the earth gods. The part played by a reigning king as a priestly mediator with his ancestors will be described later in connection with a study of the sacredness of kings. The importance of religious ritual in connection with agriculture has been noted by H. Labouret (1931, p. 368), who says that the religious character of land tenure is connected with a cult of the earth god. He gives instances of prayer and sacrifice to such a divinity when new land is occupied for making a village site.

Plateau tribes of Nigeria observe a ceremonial eating of first fruits. A chief is first to partake, and he makes an offering of the first produce to ancestral spirits. When clearing his land, a farmer of the Kagoro tribe pours out beer and prays that the ground may be fertile. The Kagoma perform rites in a sacred grove, and during the days of observance sexual intercourse is forbidden. A favorite wife of a dead chief assists with the sowing, and when the crop is a foot high certain ceremonial acts are necessary.

Before eating the first of the yam crop, a chief of the Yoruba publicly sacrifices a dog. The headman of each village is responsible for this ceremony; songs of thanksgiving are sung, and the head of each family has to make a sacrifice to ancestors in his own home. C. K. Meek (1925, vol. 1, pp. 119-133) emphasizes the importance of ceremonial in assuring abundant crops but points out that many Nigerian tribes have a technique that makes use of irrigation, rotation of crops, manuring, and allowing land to lie fallow for periods.

According to N. W. Thomas (1913, Part I, pp. 37-41), an Ibo farmer of the Awka district is expected to sacrifice a fowl to the ancestral spirits of people who previously owned the property. This is another apt illustration of the fact that no man is absolute possessor of the land he cultivates. Should the ghosts of previous owners be neglected, they will send wild animals to eat the yams.

In Sierra Leone an agricultural deity named Kumba is recognized, and for him the people weep at the beginning of the agricultural season. When rice is planted in a small plot reserved for Kumba, the children sing, "We cry for Kumba; they are planting his rice on this day, and no one may do any work." The rice in this sacred patch of Kumba is left uncut, since the grain belongs to Kumba, and he would destroy the whole crop if his property were violated. Old rites included the offering of rice on graves of ancestors, for if this were not done the ghosts would catch hold of the hoes. At harvest time Kumba again has his offering, and the *krifi* have to be placated in the same way, since they are mischievous spirits who steal the rice. During some rites sexual continence has to be observed, or the cassava will be bitter and the husks of groundnuts will be empty (N. W. Thomas, 1916, Part I, pp. 174-176).

M. Delafosse (1931, p. 162) states that, according to the laws of west African Negroes, land does not belong to a private owner, nor is it community property. "In fact, the ground is a god that no one would think of appropriating to himself, and still less of buying and selling." In former times a Negro family, when first arriving on untenanted land, made sacrifice to a local god in order to obtain divine consent to the use of the land. The right so acquired was transmitted in the family, and no transfer of land could be made without a religious ceremony.

Most west African Negro conquerors have respected the religious aspect of land tenure, and they have conceded that conquest gives no right to occupation of the soil. This attitude toward land ownership is in harmony with many religious beliefs. The Ashanti, for

instance, regard the sky and the earth as their two greatest deities, and according to mythology some of the clans sprang from the earth. A day is set aside for the observance of Mother Earth, and offerings are made to the ground spirit by killing fowls and allowing their blood to drip on the earth on the day when tillage is begun. As a further study of religious attitudes in agriculture, G. H. Jones (1936) should be consulted. The article deals with the Earth Goddess and native farming in west Africa.

AGRICULTURAL RITES OF BANTU NEGROES

In his account of land tenure among the Bathonga, H. A. Junod (1912, vol. 2, p. 135; *passim*) points out the function of a chief as a distributor of land and not an absolute owner. Land is granted for cultivation to all tribesmen who have acknowledged the supremacy of the chief, but possession of land depends on continuous occupation and cultivation. Real estate is hereditary in the male line to sons, who apportion the land among their wives, but, in accordance with general Negro procedure, these temporary owners have no right to sell their plots. After land has been assigned to subjects, a chief, no matter how high his social position, has no rights in the land, and he would have to ask permission to pick up a single piece of fallen fruit from land granted to a subject. Junod's description of agrarian, religious rites reveals the basic idea of ancestors, and ancestors who have become gods, as the real owners of the land.

The Bathonga observe several points of ritual in connection with agriculture and woodcraft. Before a tree is cut down, the bark is smeared with drugs, which are also used for burning at the root of the tree, and before felling a mahogany tree an offering is made to ancestral spirits. The Bathonga sow maize without a ceremonial act, but sowing of millet requires a special rite. Probably millet is by far the older grain, and so became associated with deeply entrenched and ancient ceremonial, which was not transferred to more recently imported grains.

To prepare the millet for sowing, a chief chews the root of a plant, then blows on a quantity of millet which is afterwards mixed with the general supply of millet belonging to his subjects. This rite is said to keep ants from the seed. A few taboos and observances are connected with sowing of Kafir peas. Men must plant the peas, but after this only women may enter the field, for a man who does so would be afflicted with hydrocele.

The prohibitions associated with threshing are strict. Men are forbidden to approach the threshing floors. A relative of the owner of a field is not allowed to pluck spikes of maize for himself, but he may do so if he threshes the corn before taking it away. People are conservative in their attitude toward changes. They resent the introduction of new grains or methods, and to the first man who planted a mango tree the people said, "You will die." The plow has, however, been accepted.

The Bathonga make offerings of agricultural produce to their ancestral gods, and leaves of tobacco are presented to both the maternal and the paternal ancestors. Gods and chiefs have a prior right to first fruits of the soil, and for anyone to forestall this right by eating of the first produce would be a serious offence likely to bring misfortune on the community.

A principal agricultural ceremony is that known as the *luma* of the Kafir corn, at which rite the great wife of the chief crushes the first grain and mixes with it a substance called the royal powder. The chief offers this mixture to ancestral spirits at the main entrance to his kraal. He prays "that the Kafir corn shall keep our bodies so that they shall become fat and not thin." Following this ceremony, the corn is eaten by chiefs, subchiefs, councilors, and warriors who have killed enemies in battle. The harvest is in this way made available for commoners.

D. Shropshire (1934, No. 86) states that in the Wabarwe tribe the Midzimu are ancestral spirits of the family, who require offerings at their shrine especially at the time of the first rains. "The spirits are very angry if we do not offer before planting," the people say, "and if you stint them they can call the birds to finish all your crops."

The Ba-ila know little of the principles of agriculture. They do not allow their land to lie fallow for a period, neither do they adopt a rotation of crops or recognize the necessity for selection of seed. Manure is not used. But a firm belief that successful agriculture depends on religious observances is preserved. To work on the day after the first rain is regarded as an offence against the giver of rain; therefore, such an act would jeopardize success. People who "have a lucky hand for sowing" are engaged in this work, and at harvest time each man takes corncobs and hangs them from the rafters in his hut. This grain is an offering to his ancestral spirits (E. W. Smith and A. M. Dale, 1920, vol. 1, pp. 135-138). The fact that women mold female breasts and serpents on the corn bins suggests some

ancient fertility cult having these designs as symbols. In African ophiolatry the snake is closely associated with rainbows and rain, and the reptile is widely regarded as an announcer of conception.

Details of agricultural operations vary; the crops themselves are different, and the ritual takes many forms. But the mainspring of life in the Negro area now to be described is the sacredness of the land and the spiritual approach to cultivation.

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VOLUME XXVI

SOURCE BOOK
FOR
AFRICAN ANTHROPOLOGY

PART II

BY

WILFRID D. HAMBLY

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PAUL S. MARTIN

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SECTION III
BASIC ELEMENTS OF NEGRO CULTURE

SOURCE BOOK FOR AFRICAN ANTHROPOLOGY

III. BASIC ELEMENTS OF NEGRO CULTURE

INTRODUCTION

In consideration of the great area occupied by Negroes, and in view of local differences in their physique, language, and culture, is it permissible to speak of a *Negro culture*? I believe that certain general fundamentals of Negro culture can be profitably considered, but with reservations.

DIFFICULTY OF CULTURAL CLASSIFICATION

A question arises respecting the cultural position of Nilotic Negroes and Half-Hamites: where do they fit in the scheme describing the basic elements of Negro culture? Nilotic Negroes are a number of tribes living in the region of the upper White Nile. These tribes have languages that are basically Sudanic Negro, with Hamitic elements (Murray, 1920). The physique is essentially that of Negroes, but a Hamitic mixture makes itself evident, especially among the Shilluk (C. G. Seligman, 1910, p. 174). The culture is pastoral, and agriculture is relatively unimportant. The Nilotic Negroes, also the Half-Hamites, Masai, Nandi, and Suk, were therefore included in a description of pastoral tribes (section II), and for this reason only brief reference will be made to these pastoral Negroes during a comparative study of Bantu and Sudanic Negroes.

Bantu-speaking Negroes could be divided into many subsections, not only on linguistic but on cultural grounds, yet this work has not proceeded far, and Schapera's (1929a, 1934c) arrangements are chiefly geographical and linguistic.

Some of the social and economic distinctions between divisions of the Bantu depend on the extent to which cattle have become important in tribal life. The Ovimbundu of Angola are Bantu Negroes with an agricultural system that is basic in their social and economic life, yet cattle are ceremonially important. The Ovambo of South West Africa, and the Zulu of southeast Africa, are Bantu Negroes, physically and linguistically, but their social pattern has been affected by the rearing of large herds. These are border-line instances of Bantu Negro cultures with traits closely related to the pastoral Hamitic cultures of northeast Africa.

Among Sudanic-speaking Negroes of west Africa, all of whom are agricultural, certain local developments of the social and religious

pattern have to be noted (Rattray, 1923, 1927a, b); and in Dahomey (M. J. and F. S. Herskovits, 1933; Le Hérissé, 1911). Among the Yoruba (S. Johnson, 1921) and the Jukun (Meek, 1931a) special developments in ancestor worship, the sacredness of kings, court procedure, art, and military organization have taken place. Therefore, in describing Negro culture in general such specializations have to be recognized (Labouret, 1931).

But despite the presence of borderline instances of the mingling of distinct types of culture, and the special development of cultural traits in some areas, there yet remains the possibility of describing what is fundamental in religion, law, social organization, and economics in the areas (6A and 6B) shown on the map of culture distributions (Map 4).

Although no present tribal classification is satisfactory and we have no complete gazetteer of tribes, assistance with tribal names and localities is given by Schapera (1929a) for the Bantu, Roome (1925) for all Africa, Maes and Boone (1935) for the Congo, Joyce and Brauholtz (1925), and Torday (1930), for Negroes in general, Van Warmelo (1935) for South Africa, and Jerrard (1936) for Tanganyika. Most of the tribes mentioned in this section can be located by use of Map 1, facing page 1. A bibliography classified according to political areas is given at the end of vol. II, pp. 836-839.

In studying the social organization of Negroes, students will be greatly helped by perusal of a work edited by F. Eggan (1937). The several contributors deal with kinship, law, and other aspects of social organization among American Indians. Yet the principles of inquiry, suggested categories of legal sanctions, together with exposition and criticism of the views of Professor A. R. Radcliffe Brown, will be a stimulus in the study of Negro Africa.

I. SEXUAL LIFE

COURTSHIP AND MARRIAGE

Study of sexual relations is a necessary introduction to consideration of tribal structure and the functioning of all institutions. The permanent union of a man and a woman leads to the founding of a family which is the basic social unit. If the nature of this union is understood, then facts pertaining to the kinship system, government, law, religion, and economics can be seen in their logical relationship.

TYPICAL BANTU COURTSHIP AND MARRIAGE

When gathering information among the Ovimbundu, my interpreter Ngonga, himself an Ocimbundu who spoke English fluently, said, "If a boy wants a girl he should look at her for several days. Then he will speak to the girl, who will tell him to go to her parents." If the parents approve of the boy a friendship begins, "but the boy must not do anything to the girl," and my informant stated that birth of a child during the courtship would be a shameful occurrence.

Infant betrothals are common among Negroes, and parents may have an understanding relating to the mating of children even before their birth. But, despite many instances of this parental prerogative, a broad survey shows that the actual right of refusal frequently rests with the girl herself.

Ngonga said that the small gifts of the suitor to the parents of his betrothed mean that "this girl is mine, and no other boy will ask for her because she is promised." The gift is, therefore, a token and not a purchase. But among the Ovimbundu, and with the majority of Negro tribes, a gift or token more valuable than the present which secures a courtship must be made to the girl's parents before the marriage is ratified. Ngonga emphasized the tendency of parents to argue. "You must bring a better blanket," they may say when concluding the arrangements.

But after the parents have accepted the tokens, a meeting of the relatives of the bride and groom is called in the men's council house (*onjango*). Here the parents of the girl exhort her to be a good wife and, above all, to treat visiting relatives with hospitality. The prospective bride chooses one married woman and six unmarried girls to accompany her to the house that has been built by her husband on his father's land, as near to his parental home as possible.

The marriage is therefore patrilocal in this instance, but other types will have to be noted.

For three nights the Ocimbundu bride sleeps at the home of her parents, while the groom returns to his parents for the same period. In the meantime the new home of the bride and groom is temporarily occupied by the attendants of the bride. During these three days the groom is ironically addressed as *sandombua*, a word which expresses the fact that he has not consummated the marriage.

On the fourth day after the wedding in the *onjango*, the bride brings to her new home a few simple utensils, such as cooking pots, a broom, some wooden vessels, and pounders for crushing maize. During the first month of married life a bride is not allowed to cook in her own home, but all culinary work has to be done in the house of her husband's parents, and meals for her husband are sent to the *onjango*, where all men foregather to eat at least their evening meal apart from women.

When the bride begins work in her own home, three old women who have been happily married are invited to lay the hearthstones, which they consecrate with the sprinkled blood of a freshly killed chicken. While the young wife performs her tasks she is guided by the three old women, who actually take hold of her hands while she is stirring the mush or sifting the maize. After a few days of this supervision the young husband and wife are left alone.

PREMARITAL CHASTITY

The question of the virginity of a newly married girl raises the subject of prenuptial relations, especially after a courtship has begun. On this point Ngonga was quite clear. He said that in former times virginity was expected in a bride, and if she proved to be otherwise the husband burnt a hole in her cloth and made her take the garment to her mother. Restitution of part of the presents given by the husband to his wife's parents reunited the couple.

Among the Ovimbundu, although premarital pregnancy is a disgrace, boy and girl companions sleep together at irregular intervals in the home of one of the girls. But girls are not allowed to sleep at a home of one of the boys, and sexual acts are forbidden. A girl calls her boy companion *ombaisi*, and he gives her the same name, which is a special term for this intimate prenuptial relationship.

In reviewing Bantu marriage customs E. Torday (1929b) refers to premarital friendships of boys and girls who sleep together even

to the age of seventeen, though pregnancy is regarded as a disgrace. Torday suggests that the boys and girls practice mutual masturbation, and he thinks it possible that, despite the apparent sexual freedom, actual coitus does not take place.

Torday makes a distinction between the attitude of the eastern and western Bantu toward prenuptial chastity. He states that the eastern Bantu value virginity highly, and quotes instances from the Akikuyu and the Wachagga. A Chagga girl who became pregnant, though betrothed, was driven from home and obliged to live with her lover in a remote place until the child was born. The parents had to strangle their infant at birth. Bapidi girls must remain virgins until marriage, and in some clans the girls are examined on the day of their marriage by female relatives of their husbands.

"In Zululand even to-day strict control is exercised by the groups of older girls over those younger than themselves, and a girl may not even speak to a boy after she has reached puberty until she has received permission to do so from the elder group. A girl's pregnancy defiles her whole age-set in that neighborhood." Krige (1936a, pp. 5, 6.) See also H. Wieschhoff (1937b, pp. 221-235).

The data assembled by Torday indicate the laxity of sex relations among the western Bantu before marriage; apparently the Ovimbundu are an exception to Torday's general conclusion, for they are a western Bantu tribe who value premarital virginity. In support of Torday's conclusion respecting laxity of the western Bantu with regard to virginity, J. H. Weeks (1914, p. 107) states that the Bakongo tolerate sexual freedom before marriage.

BETROTHAL AND PAYMENT

H. A. Stayt (1931a, pp. 143, 151) has pointed out that among the Bavenda, who are Bantu Negroes of the northern Transvaal, *lobola* in the form of cattle passes from the groom's family to that of the bride. The *lobola* is a compensation for loss of a female, a potential bearer of children. Unless a man pays *lobola* for his wife his marriage is not recognized by the community, neither can he obtain his children, since they are not considered his lawful property. Instances occur in which a woman pays *lobola* in order to obtain another woman who has sexual relations with the husband of the female purchaser. A female who brings another woman to her home in this way is called "father" by the children of the woman for whom she paid *lobola*. See Herskovits (1937b). A husband may serve his wife's family, as among the Mashona, in lieu of *lobola*. But residence

with his wife's kin for this purpose is not a true matrilocal condition Schapera (1929, No. 86).

A. I. Richards (1934, p. 272) states that among the Babemba marriage is matrilocal. Girls are betrothed usually before puberty, and after the first symbolic presentations to the parents-in-law the bridegroom, often himself a mere boy, moves to the bride's village and works for a period, possibly seven years, for his father-in-law. After the birth of one or more children, and after proving his capability as a worker and making further payments to his bride's parents, the husband may take his bride from her own kindred.

R. S. Rattray's data (1927a, p. 77) relating to Sudanic Negroes of Ashanti are in agreement with the facts noted for Bantu betrothal. Infant betrothal exists among the Ashanti, and the agreement may be an arrangement between parents, who ratify the compact by presents which are returned if a union of their children is not established. A female child calls her betrothed boy her husband and carries his bundle for him, but no sexual intercourse takes place. Rattray's statements support the present contention of ethnologists who assert that the term "bride-price" is a misnomer. In Ashanti "gifts from the parents of the boy to those of the girl merely secure a sexual prerogative, and a right to claim damages for its infringement." The gifts do not enrich the parents, since the articles are distributed among witnesses. Rattray states that "there is a fairly large repudiation of such betrothals," and he believes that many marriages are based on genuine affection. Formerly in Ashanti virginity was respected. Before her marriage ceremony a prospective bride broke an egg at crossroads, saying, "If anyone has eaten me may my *obosum* (god) kill me." If a bride confessed to premarital sexual intercourse, the seducer and the bride's parents had to make a payment to the aggrieved husband. For discussion of the term "bride-price" see "Man," 1929, Nos. 107,174; 1931, No. 187; 1932, No. 68, and A. T. and G. M. Culwick (1934, pp. 140-159).

MARRIAGE AMONG WESTERN NEGROES

An Ashanti wedding takes place on the sixth day after the girl's second menstruation, when the fully ornamented bride is led by her mother to the hut where her husband waits. The bride and her mother give thanks for presents received; then they go away but return after dark. The husband gives his mother-in-law a present of tobacco, and the three remain in conversation for a time, after which the bride is left alone with her husband.

In describing the Kona, who are a section of the Jukun of eastern Nigeria, C. K. Meek (1931a, pp. 278, 386) reports that a man commits an offence if he has sexual relations before the ears of his betrothed are pierced. After this operation, which is performed at puberty by a male relative of the groom, a messenger announces, "Your horse has had its ears pierced today, you may now mount the animal." The groom makes a gift of a tobacco pipe and tobacco to his bride's parents.

Married life among the Kona is for a time characterized by visits of increasing frequency paid by the bride to the groom, whom she leaves before dawn to return to her own home. Delay in making the marriage absolute is arranged so that the girl's family will have an undisputed claim to the first child, which is regarded as part of the compensation for loss of the bride herself from her kin. During the probationary period the "trial" wife is allowed to have intercourse with other men, and if her sexual relations with them are criticized she replies, "What has that to do with you? Have I yet gone to your house as a wife?" The true marriage relationship begins six months after the birth of the first child, and at that time the girl goes permanently to her husband's kin.

The Jibu, who are another section of the Jukun, are described by Meek as a mother-right people who practice matrilocal marriage; but this is scarcely a true matrilocal marriage since residence of a husband with his wife's kindred is only temporary. The suitor's ability to farm is more important than gifts, so during a period of one or two years he is required to work on the farm of his father-in-law, or on that of his wife's elder sister's husband. Children born during this matrilocal residence remain with their mother's kin if for any reason, including their mother's death, the marriage is dissolved. Meek explains that the Jukun, according to locality, show stages of transition from mother-right, to father-right, and from matrilocal to patrilocal conditions. Matrilocal marriage favors monogamy, places a check on adultery, and makes divorce more difficult than under patrilocal conditions.

Marriage arrangements among Sudanic Negroes have been described by H. Labouret (1931, pp. 261, 269), who speaks of prenatal betrothals and marriage contracts made for infants. Formalities include an exchange of gifts between the parents of the two children, but before the contract is ratified at puberty the arrangement may be canceled; freedom of action of the betrothed and their respective families is made clear. If an engagement is broken, the

youth may claim compensation for work done on the land of his father-in-law. Refusal of such a request formerly led to combat between the two families, but at the present time the matter is settled by a tribunal.

A man of the Agni tribe who desires a girl in marriage has to explain his intention to her parents. Then, if their consent is given, he spends a night with the girl. The parents are fully aware of the betrothal but are not openly cognizant of the fact that the betrothed have passed the night together. Yet the parents must have some knowledge of this act, for if the suitor has spent the night with their daughter, then repudiates her, he has to appear before a council of her family, who extract a fine from him (L. Tauxier, 1931a, pp. 49-51).

On the contrary, if the youth and the girl wish to continue their engagement, the suitor approaches her parents the day following their night together. The dowry to be obtained from the young man is a matter for discussion between the two families concerned. For breach of contract at any time before marriage, the fine for either of the defaulting lovers is twenty-five francs. The marriage ceremony consists of leading the bridegroom to the bride, and in public he decorates her and her relatives with presents.

So far only simple marriage contracts have been considered among Bantu and Sudanic Negroes, but more complex forms of union are known, especially in Dahomey and Ashanti, while among the southern Bantu a form of state marriage exists.

DIFFERENT TYPES OF MARRIAGE CONTRACT

A. Le Hérissé (1911, pp. 203-226) speaks of two main types of marriage union, and within each of these he recognizes several minor varieties. In unions of the *hongbo* type the married woman is in an inferior position which is somewhat close to slavery. She was bought at birth with cowries, and always accepts the spouse so provided. Her children by this marriage belong to the husband's family group. A second and distinct type of marriage gives power to the maternal family, who are regarded as owners of the children by this marriage. Within this second type of marriage three varieties are discussed, one of which is called "de la chèvre au bouc." The phrase means "taking a she-goat to a he-goat." Unions of this kind are sought by men of small means, and the children of such a marriage belong to the mother. The types of marriage vary in respect to the dowry payable by the groom, the priority of rights of either

the father's or the mother's kindred over the children, and the extent to which dowry is returnable to the husband in event of his wife's death, or divorce on account of her adultery.

R. S. Rattray (1927a, p. 82) describes three main types of marriage contract in Ashanti. There exists an ordinary form of marriage in which a dowry *aseda* has been paid by the prospective husband to his parents-in-law. If a wife who has been secured in this way dies or leaves her husband, but not because of her misconduct, the husband is not entitled to a refund of the bride-wealth he paid. In a second type of marriage a man secures his wife by paying to her parents a sum named '*tiri nsa* (head wine) in order to liquidate a debt owed by the woman's family. A third form of marriage requires that a husband shall secure his wife by paying to her parents both *aseda* and '*tiri nsa*. The second type of marriage demands, that if the wife dies, her parents must return to her husband the sum he paid in liquidation of their debt. In the third type of marriage the procedure at the death of a wife is the same as in case two, but only the '*tiri nsa* and not *aseda* can be reclaimed by the widower. For Nigeria (C. K. Meek, 1936, pp. 64-72) has described two principal forms of marriage: (1) By payment of bride-price; and (2) by exchange.

Forms of state marriage described by J. H. Driberg (1932b), should perhaps be regarded as a completely normal development, and not outside the ordinary rules of African marriage. Some Bantu tribes of south Africa afford instances of state marriage in which the bride-price is paid, not by the husband, but as a contribution from the whole tribe. The state wife who has been secured in this way is expected to provide an heir to succeed her husband in office. A state marriage cannot be dissolved unless it fails to provide an heir, and even in case of barrenness divorce may not ensue, since the difficulty is sometimes met by giving the chief a sister of his state wife.

MARRIAGE AMONG Nilotic NEGROES

Among Nilotic Negroes the procedure of betrothal and marriage bears resemblance to that of Sudanic and Bantu Negroes. Driberg says of the Lango that marriages are the result of individual choice on the part of man and woman, and that as a rule married life is happy and harmonious. The dowry is not really a purchase, since cattle paid for the bride are used by her parents to procure a wife for one of their sons, and in this way the dowry is a means of restoring equilibrium. Of prenuptial relations between the sexes Driberg

(1923, p. 67) states that "among the Nilo-Hamites, and to a lesser extent among the Nilotics, free love is socially encouraged, and so long as the marriage taboos relative to kinship are observed the status neither of men nor of women is affected by prenuptial license." (Driberg, 1932c, p. 416.)

For the Shilluk, W. Hofmayr (1925, pp. 288, 291, 295) states that women have a high social standing. Betrothal is arranged by an intermediary. The dowry is usually ten cows, and the suitor makes frequent presents of food to his future parents-in-law. A sham fight between kin of the bride and the friends of the groom takes place when he goes to claim her. This is a usual custom in the Nilotic Negro tribes, and according to L. Cummins (1904, pp. 149-166) abduction of a Dinka bride is carried out through a hole in the back wall of her hut while a sham fight is in progress. Cummins states that a wife is obtained either by purchase, the price being paid in cattle, or by capture from hostile clans or tribes. Wives obtained by a raid are inferior in position to wives obtained by payment of a dowry of cattle, but the children of the two classes of wives are of equal standing.

The foregoing instances have been selected as illustrative examples of a large body of evidence which has the same general trend. The data make clear that among Negroes women are not of inferior status in respect to marriage. Infant betrothals are common, but the contract is not binding, and a girl has considerable freedom of choice. The main fact to grasp is that marriage is a definite contract between individuals and their kindred, and that the legal bond, which involves payment of a dowry and often a public marriage rite, lays a sure foundation for permanent family life. The dowry paid by the bridegroom is compensation for loss of a child-bearing individual from her own kindred.

With regard to prenuptial sexual relations the evidence is equivocal, and further research, such as that carried out by E. Torday for the eastern and western Bantu, might show definite regional attitudes toward premarital license. The nature of the marriage contract and the status of women may be further considered by reviewing customs relating to polygamy and divorce.

Other regular forms of marriage, namely, the levirate and gerontocracy, also enjoined marriages and prohibited unions, are described in section III, chap. III, "Social Organization." The levirate, by which custom a man inherits widows of his brother, is further discussed under "Law," in section III, chap. IV, "Social Controls."

POLYGAMY

Of the two forms of polygamy, which means "marrying many," polygyny, a term referring to plurality of wives, is far the more common in Africa and in all other parts of the world. The term polyandry is not of precise connotation, since the word has been used to describe different kinds of sexual unions of a woman with more than one man. Polyandry exists in Tibet, in the Marquesas Islands, and among the Todas of southern India. Among the Dieri tribe of Australia a woman has her husband (*tippa-malku*) and also her recognized lover (*pirraru*), who has sexual privileges.

Polyandry, meaning the recognized union of one woman with more than one man, is reported by J. Roscoe (1923a, p. 123; 1915, p. 121) among the Banyankole of northeast Africa, but this type of union is rare among Negroes. Roscoe states that Banyankole polyandry arises from the inability of a man to pay cattle as a dowry. In event of poverty, a man asks one or more of his brothers to join with him in procuring a woman, who becomes the lawful wife of all who assisted in contributing the dowry. The woman lives with each of her husbands in turn until pregnant, then she remains with the oldest brother until her child is born. Only the oldest brother goes through the form of marriage, but it is understood that the woman is the wife of all, yet all the offspring of such a marriage are recognized as children of the oldest brother.

This is hardly a true polyandrous relationship, since only one brother goes through the form of marriage. The arrangement appears to mean that younger brothers, because of their contribution to the dowry, have access to the wife of their oldest brother. Roscoe says, "There appears to have been no difficulty in obtaining a woman as the wife of several men, nor were there any quarrels or unhappiness." The validity of the term polyandry becomes still more doubtful when Roscoe refers to "clan brothers" having access to one woman.

C. K. Meek (1925, 1, p. 198) has examined the nature of certain sex relations in northern Nigeria and has discussed the applicability of the word polyandry to these unions. "Among the Gwari a man who captures another's wife is under no obligation to repay the former husband, and the children born to him are his. A Gwari woman may indeed have several husbands and families in different towns, living now with one, now with another, as she feels inclined. As the children belong not to the first husband but to the actual father, we have here a fairly close approximation to true polyandry.

As a general rule, however, the *zaga* wife-abductor remains a *cicisbeo* until the former husband chooses to accept from him an equivalent of the bride-price originally given to the girl's parents. Until this is done the husband has a claim on all children born by the abductor, and the *zaga* is a temporary union only and cannot be regarded as a marriage. The *cicisbean* character of the *zaga* is well illustrated by the custom among the Warji that as soon as the runaway wife conceives by the *cicisbeo* she must forthwith return to her husband."

Instances of a true sororate are as doubtful as examples of a genuine polyandrous marriage. By the sororate is meant the espousal of a man to two or more sisters; this custom has sometimes been described as a group marriage. A note has previously been made to the effect that a man whose wife proves barren may espouse her sister. The parents of the barren wife give the sister as compensation, but the first wife, though childless, probably retains her place as the Great Wife or head woman in the polygynous household. Possibly this custom has given rise to a European conception of a sororate. The Ovimbundu, though polygynous when circumstances permit, definitely forbid marriage with a wife's sister while the wife is alive; but marriage with a deceased wife's sister is permissible.

Descriptions of the courts of important kings and chiefs leave a false impression of the extent of polygyny among Negroes. Instances can be found of a king's household which contains hundreds of wives, some of whom he has never seen; but polygyny of this kind is rare, and fortunately so because of the probable social and personal injustice involved.

Data relating to the normal occurrence of polygyny in various areas are inadequate for preparation of precise statements giving the number of men who have two or more wives. C. W. Hobley (1910, p. 13) tabulates the number of wives in each of thirty-eight families of the Akamba. Eleven families with one wife, nine families with two wives, seven families with three wives, five families with four wives, one family with five wives, two families with six wives, one family with seven wives, one family with eight wives, and one family with fifteen wives. This, however, was almost thirty years ago and conditions have probably changed in the direction of monogamy.

The largest polygynous family I saw in Angola (1929) was that of the headman of Ngalangi, who had eleven wives. In his compound were eleven huts, one for each of his wives and her children. Ovimbundu custom requires that a husband shall spend either four or

seven consecutive nights with each of his wives in turn; the four-night cycle being the more usual. Each wife has her own kitchen and the wives take turns in cooking the daily meals that must be sent to their husband in the council house, where all men gather at sunset. The husband of eleven wives was anxious to explain that he had eleven wives though only six were present; the remainder were at work in the fields. Before a photograph was taken, the chief sent his principal wife to dress in a colored blanket which was her mark of distinction. A husband considers that his social prestige depends on the number of his wives, and a Great Wife is glad to have other women to perform the work, since this advances her own social standing. Too little is known of the extent of polygyny and the sex ratios of Negroes to estimate what social injustice, if any, is inflicted by the appropriation of several women by a wealthy man. That friction is likely to occur in polygynous households is suggested by some of the terms used by the Ovimbundu. See "Kinship Terms," chap. 3 of this section.

The entire evidence relating to marriage contracts, whether polygynous or not, fails to indicate that woman has an inferior status, and probably J. H. Driberg (1932c, p. 405) is correct in saying, "It is doubtful, indeed, whether among Africans the question of high or low status ever arises as a distinction between men and women. It is a different status, that is all, corresponding with differences of physique, natural functions, and stamina, not an inferior status."

Two writers, G. Gordon Brown and A. McD. Bruce Hutt (1935, p. 213) are of the opinion that "the disappearance of polygyny will create a new problem, that of surplus women. To take an extreme possibility, if the whole tribe (Wa Hehe) became Christian there would be nearly 8,000 more females than males, of whom at least 4,000 would be of marriageable age. Since continence is not of likely occurrence among the Hehe, there would be a large number of irregular unions, taking the form of casual intrigues or, more probably, of concubinage. This would be a poor substitute for the present essential equality of all women."

DIVORCE

In agreement with the definite nature of the marriage contract, laws relating to divorce indicate that no easy repudiation of a spouse is possible in Negro society. Not only the individuals are concerned; the two families take an interest in divorce proceedings, which in some tribes require a public ratification. If divorce is inevitable,

decisions have to be reached respecting disposal of the dowry paid for the wife, return of the articles contributed by the wife to her home, and the custody of the children.

Among the Ovimbundu the main grounds on which a man can claim divorce are adultery of his wife, her want of industry as a cultivator, thieving from other gardens, physical weakness, frigidity, barrenness, nagging, incompetence in cooking, and inability to suckle her children. Yet divorce is not so frequent as might be supposed from the number of causes that justify such procedure.

Ngonga, my informant, pointed out that adultery is often condoned, provided the seducer pays a fine, and this procedure is common as a settlement of threatened divorce in Negro society. The Ovimbundu, like many other Bantu tribes, do not readily condone the divorce of a barren woman; in all probability the husband will marry another woman, but his first wife retains her position. With regard to frigidity, Ngonga said, "The husband is so angry that he may go out hunting for a long time. He may tie the hands of the resisting wife, but if she is a good cook another wife is taken and no divorce from the frigid wife is claimed." My informant said that it is usual for a dissatisfied husband to complain to the parents of his wife or to some old people who remonstrate with her. Some kind of adjustment is always attempted. According to Ovimbundu custom the difficulty of barrenness may be overcome by allowing a wife to have sexual relations with a man other than her husband, but the husband claims any offspring of the liaison. J. H. Weeks (1914, p. 146) speaks of the same custom among the Bakongo, and evidence could be adduced to show that barrenness of a wife may be compensated for in this way among many Negro tribes.

If an Ovimbundu has fully decided to divorce his wife, he must inform his parents and those of his wife of his intention. There is a meeting of husband and wife, their parents, and the village headman (*sekulu*), in order that a public rite of repudiation may be performed. The husband receives from his father-in-law a pig and a roll of tobacco, then he places leaves and palm oil on his wife's back, and slaps her, while saying, "It is finished." A divorced wife takes to her parents' home all children under three years of age, and these belong permanently to her kindred. The parents of the divorced woman try to secure another husband for her, but the dowry required from the new husband is not so valuable as the dowry demanded for a first marriage.

A woman of the Ovimbundu can institute divorce proceedings if her husband is impotent, or if he is thought to be sterile. In case of alleged sterility he may marry another girl to test his competence. A woman may divorce her husband if he ill-treats her, fails to provide cloth, palm oil, and ornaments, or if he does not give her an extra supply of cloth in which to fold her baby on her back.

The parents of a woman who desires divorce try to mediate, saying, "Go and try again." They do this, so Ngonga said, because they do not wish to have their daughter returned to them. In order to instigate divorce proceedings, a wife returns to her parents and refuses to live with her husband. A woman who divorces her husband is entitled to take with her the articles she provided for the home, but her husband will beat her if she removes the articles before the divorce is ratified. The dowry paid by the divorced husband to his wife's parents must be returned to him if his wife divorces him. The public rite of repudiation is performed in the same way as for divorce of a wife by her husband. If a woman who has divorced her husband marries again, the dowry provided by the new husband must be paid to the divorced husband and not to the parents of the divorced woman. The arrangements of the Ovimbundu to some extent favor the male when divorce is sought, yet women have definite rights.

The facts given for the Ovimbundu are representative of the rights and procedure in many Bantu tribes, and the total body of evidence indicates that breach of a marriage contract is a serious matter, which is not undertaken without mediation; and to make the abrogation valid, compliance has to be made with laws regulating the disposal of children and return of the dowry. Laws affecting these adjustments vary from tribe to tribe in some measure, but the binding nature of the marriage contract, and the absence of facile and utterly capricious divorce, can be regarded as fundamental principles in Negro life.

The infrequency of divorce and the methods of avoiding a final rupture are described by H. A. Stayt for the Bavenda (1931a, p. 152), and the data are typical of Bantu procedure. He mentions compensation for adultery, without divorce of the delinquent wife, and calls attention to substitution of a woman in place of a barren wife. "There is no obligation on the part of the wife's family to provide another woman, but they generally do so to maintain friendly relations between the two families. Divorce is unusual. A man cannot return his wife to her parents and receive compensation unless she

has had several abortions, committed incest, become an habitual adulteress or thief, or has been designated a witch."

Examination of evidence relating to divorce among several typical tribes of western Negroes shows correspondence of procedure with that which has been given for some Bantu tribes. In Ashanti a male may claim divorce because of barrenness of his wife, her adultery, drunkenness, a quarrelsome nature, interference on the part of his mother-in-law, and the practice of witchcraft by his wife. A man may secure divorce if he has inadvertently married into his own *ntoro* or *abusa*. These terms designate the male and female elements present in conception, and the words are used to describe certain prohibited degrees of relationship within which a marriage is regarded as incestuous. A woman may demand divorce on account of the impotence of her husband; his refusal to clothe, house, and feed her properly; or his absence for three years. If the woman is a Great Wife, she may claim divorce if her husband marries another woman without first obtaining her consent. Acquiescence of the Great Wife to a subsequent marriage is a fairly common requirement in Negro tribes (R. S. Rattray, 1927a, p. 98).

The public repudiation of a divorced wife in Ashanti is similar to the rite described for the Ovimbundu. The Ashanti husband sprinkles white powder on the woman's shoulders while saying, "I have ceased to cohabit with you." Laws regulating return of the dowry are in accordance with the types of marriage contracted by payment of *aseda*; *'tiri nsa*; or *aseda*, together with *'tiri nsa*; as previously described.

Most of the accounts of adultery as a cause for divorce state that in former days an aggrieved husband had the right to kill his wife's seducer, but compensation was sometimes accepted; at the present time compensation is the general method of settlement. Adjustment rather than divorce is a conspicuous feature of the data relating to this subject. L. Tauxier states that a husband who has committed adultery has to compensate his wife with presents, and if she receives these he is allowed to continue his relations with his mistress. Among the Angi the children of divorced parents are divided so that males remain with their father, while females accompany their mother to her own kindred. The father remains responsible for the support of all his children. Divorce must be ratified by the families of both husband and wife (L. Tauxier, 1932, p. 51).

Among the Kpelle, according to D. Westermann (1921, p. 62), a man may obtain divorce because of the adultery, stubbornness,

peevishness, laziness, or barrenness of his wife. He is also entitled to divorce if she leaves home and refuses to return. A woman may claim divorce on account of harsh treatment from her husband, his impotence, or his failure to fulfil the general obligations of a husband. The general requirements are, by virtue of their elasticity, almost as favorable for a woman as for a man. If the male is the offender, all his children accompany their mother to her kindred; but, on the contrary, if he divorces his wife his children remain with him. The parents of a divorced woman return the dowry or give another female in lieu of their divorced daughter.

Among tribes of the Jukun, as C. K. Meek (1931a, p. 388) shows, those who practice a matrilocal form of marriage are conscious of its advantages in giving security of married status to women. A man can obtain divorce more easily among the patrilocal tribes. R. S. Rattray (1923) has called attention to the security of Ashanti women from injustice since matriarchal conditions, involving the reckoning of descent, inheritance, and succession in the female line, prevail.

Owing to the bilateral character of the Jukun social system a husband who divorces his wife is liable to lose possession of all his children, since they may accompany their mother to her kindred. Consequently, a husband exercises the utmost patience with his adulterous wife, giving warnings and admonitions. A husband who divorced his wife would be within his rights to reclaim at least a part of the dowry he paid, but it is not likely that he would do so if the children were left with him as compensation for his wife's adultery. A wife who has grounds for divorce from her husband is slow to exercise her right, but if divorce cannot be avoided she returns either to her father or to her maternal uncle. In such an instance the husband would not reclaim his premarital expenses (Meek, 1931a, p. 388).

These instances of divorce procedure clearly indicate that the marital status of women is high among some western Negro tribes, where traits of a matriarchal system prevail. The position of women in various types of matriarchal and patriarchal Negro society has been worked out in detail by S. R. Steinmetz (1903), who shows the advantages that women enjoy where the conditions are matriarchal.

The grounds for divorce among the Lango, a Nilotic Negro tribe described by J. H. Driberg (1923, pp. 160, 164; 1932c, p. 417), are similar to those previously considered. A man may divorce a woman for repeated adultery, or because of her sterility, but if the latter reason is the cause for dissatisfaction divorce may not ensue,

since the parents of the sterile woman may give a sister of the first wife, who will retain her position as the Great Wife. If this arrangement is not made, and the barren wife is divorced, the husband is entitled to a return of the dowry he paid. A woman can claim divorce for ill treatment or neglect, or she may obtain a divorce because her husband is unable to support her. If the wife who has obtained a divorce returns to her kindred, the dowry paid by her husband is refunded to him.

OTHER SEXUAL RELATIONS

The chief sexual relations not yet considered are wife-lending, prostitution, and homosexuality. J. H. Driberg (1932c, p. 417) describes the lending of wives to members of the husband's age group as a common feature of the Nilo-Hamitic culture, in which this custom is a necessary form of hospitality.

J. Roscoe (1923a, p. 123; 1921, p. 203) states that the Banyankole have a custom of wife-lending, and the degree of liberty allowed to a visitor depends on his relationship with the husband. A visitor may sleep in the bed with a husband and wife who are his hosts, but the details of the intimacy are unknown. If the visitor is the husband's father, the husband leaves his bed entirely to his parent during the visit. The dispossessed husband stays with a married neighbor, whose bed he shares. This form of hospitality is not allowed to transgress against laws that prohibit sexual intercourse between certain relatives. Should the wife of the host happen to be the guest's own sister, his mother's sister, or his mother's sister's daughter, the guest must sleep alone. Roscoe says of the Banyankole, "A married woman is expected to entertain any guest of her husband and to invite him to her bed. This is a mark of hospitality shown by all married men to their visitors."

The prevalence of the custom of wife-lending among Negroes, together with the social and psychological aspects of the institution, have not yet been fully investigated, but V. Brelsford (1933, pp. 433-439) has shown the need for careful discrimination between customs that may at first glance appear similar. In the *kusena* custom a wife is lent as a matter of courtesy to a friend, but she does not leave her husband's hut. In the *lubambo* compact the husband receives cattle from his wife's lover, in whose hut the wife stays at intervals and for several days at a time.

The study of prostitution presents difficulties, partly because of the need of a clear definition of the practice, and partly on account of the misapprehensions of observers, who have been prone to

confuse sexual license, for example wife-lending and the intimacy of the betrothed, with prostitution. If prostitution can be correctly defined as the habitual practice of promiscuous sexual intercourse on a commercial basis, then some definite statements can be made respecting the prevalence of prostitution today, but we are still in doubt with regard to the prevalence of genuine prostitution before the arrival of Europeans.

W. Bosman (trans. 1907, p. 212) writing of Axim and other places on the Gold Coast about the year 1700, describes an indisputable system of prostitution. But at this period Europeans had been trading on the Gold Coast for two centuries, and commercialized prostitution may have arisen in response to a European demand. Bosman writes, "Negroes of the Gold Coast make no scruple of driving a public trade with their wives' bodies. Some women never marry and are initiated into prostitution. The money they get is brought to their masters, who return to them enough to keep them in clothes and necessaries. A prostitute can refuse no man the use of her body though he offer never so small a sum."

According to M. Delafosse (1912, vol. 3, p. 91) prostitution is not widely practiced in the French Sudan, yet the custom is known in some towns and villages. Professional prostitutes are generally widows or divorced women, and though they are regarded with some contempt by other women no general public reprobation is evident; neither are prostitutes segregated in a special quarter. Among some tribes inhabiting the region about the bend of the Niger, young unmarried girls act as prostitutes without making a regular trade of their amours. Mothers sometimes act as procurers and take part of the profits. Some husbands in the Dan (Mêbé) tribe of the Ivory Coast encourage their wives to practice prostitution for profit. A sexual freedom that might be called fornication or adultery is termed *prostitution occasionnelle* by M. Delafosse. He states that some women, who may be married or not, yield themselves but without remuneration.

In the Cross River region of Nigeria there are generally some prostitutes living in towns near government stations, also in riverine towns that are frequented by traders. The prostitutes are usually women who have deserted their husbands to grow rich on the earnings of canoe boys, laborers, and policemen. C. Partridge (1905, p. 258) is speaking of southeast Nigeria, but what he says is of wide application in Nigeria. I found during a long journey that my Hausa servants had no difficulty in making contact with girls almost

immediately, wherever we happened to be. The couples slept together, but whether the girls were habitual prostitutes I cannot say. The boys always paid with either money or presents.

R. C. Thurnwald (1935, p. 176) has come to the conclusion that "prostitution is a source of income not only in the towns but also in the country. The pagan tradition, according to investigations, reports, and replies to the questionnaire, does not show any traces of prostitution. In fact, conditions were so different that in the old social order there was no place for it. One is tempted to consent to the charge of the Africans that prostitution was introduced by Europeans as a consequence of the lack of white women in the beginning of European settling, and also as a corollary of monogamy. Perhaps prostitution was existent in the Arab times to a certain minor extent, although polygyny and slavery were blurring its features. No doubt a considerable amount of it must be partially assigned to the hiring of girls (for 40 shillings a month) by European bachelors, partially to their location in certain town houses, for the use of the indigenous population, which in these centers is mostly unmarried."

In the British Cameroons colonies of prostitutes are segregated in towns having a mixed population. For this condition F. W. H. Migeod (1925, p. 210) blames love of luxury and laziness; he adds that easy divorce under Mohammedan laws is partially responsible for the situation. This is, however, an instance of prostitution under modern conditions, and reliable evidence indicating that prostitution was an aboriginal Negro institution is insufficient to warrant any conclusion.

A still more difficult problem to investigate is that of homosexuality, for which the evidence is scanty in relation to the area under consideration. Ngonga said that among the Ovimbundu "there are men who want men and women who want women. The people think this very bad." Ngonga spoke of a young man who insisted on wearing the clothes of a woman so that he could work at the rocks where corn is pounded. "His father and brothers beat him, but he continued to dress as a woman." Ngonga said that he had seen a medicine-man dress as a woman, and that he had heard of a woman making an artificial penis for use with another woman.

In the French Sudan sodomy, lesbianism, and bestiality are excessively rare. Public opinion views these practices with ridicule but not with a desire to punish. The general attitude toward these irregularities is one of humorous contempt (M. Delafosse, 1912, vol. 3, p. 92).

The evidence of J. H. Weeks (1909, pp. 448-449) for the Bangala indicates that habits of solitary and mutual masturbation exist among men but probably not among women. "Sodomy between two men is common, and is regarded with little or no shame. It generally takes place when men are visiting strange towns or during the time they are fishing at camps away from their women. If a man committed sodomy with a woman he was at one time liable to a death penalty, but now he is heavily fined. Sodomy with a woman is regarded not simply as a family offence, but as an insult to the community, hence the elders of the village are responsible for judging and punishing the man." Weeks gives some additional data relating to sexual irregularities, including bestiality.

In former times among the Azande some of the more powerful chiefs named Vungara, who were members of the ruling clan, practiced homosexuality to a slight degree because of fear of venereal disease. A chief who was warned by a medicine-man that he might suffer from venereal disease if he had relations with certain of his wives would procure a boy whom he married by payment of spears (P. M. Larken, 1926, p. 24).

Dahomean boys indulge in sex play with each other after their withdrawal from the society of girls at the age of puberty, but Dahomeans have a distaste for such behavior if it is continued after the age at which normal sexual relations should begin. "Yet there are men and women who either never marry or who, though married, have their most valid sex experiences with members of their own sex. This is kept secret, for if word of it got about, such a person would be the butt of many sly remarks and, what is more dreaded, deriding songs." (M. J. Herskovits, 1932a, p. 284.)

There is enough evidence to indicate that sexual practices of an irregular kind are fairly common, but the data are not sufficient for a detailed examination of the incidence of the various irregularities among different tribes; neither are the available facts adequate for analysis of the causes involved in abnormal sexual behavior.

The foregoing evidence is consistent in showing that marriage is generally based on freedom of choice, and that the union is legalized in such a way as to make the contract binding. The data reviewed explain the formation of a stable family group, further details of which can be considered by examining facts relating to pregnancy, the naming of children, their education, and initiation into the tribe.

The following additional references are important in the study of marriage, divorce, and the social status of women. H. P. Braatvedt

(1927), V. Brelsford (1933), E. F. Brown (1935), G. G. Brown (1932), F. Bryk (1928), K. H. Crosby (1937), J. W. Crowfoot (1922), A. T. and G. M. Culwick (1934-35), N. de Cleene (1937), J. H. Driberg (1932a and b), E. E. Evans-Pritchard (1929a), A. Ffoulkes (1908), M. Kohler (1934), P. von Majerus (1911), L. W. G. Malcolm (1923b, 1924), B. Malinowski (1927), T. McVicar (1934-35), F. Ronnefelt (1936), P. P. Schumacher (1910), H. Thurnwald (1935), E. Torday (1929b), J. Vendeix (1935), A. Werner (1928b), H. Wieschhoff (1937b).

II. EDUCATION OF CHILDREN

PREGNANCY AND INFANCY

INTRODUCTION

The importance of this subject has been briefly expressed by T. J. A. Yates (1932, No. 159) who says, "The family founded by marriage is not really established till the birth of the first child. Married status among the Bantu has very little meaning apart from parenthood." In support of this view Yates gives evidence from the Bavenda tribe in which a bride crawls in the yard of her husband's home, kneels before she enters the hut, and performs other acts of obeisance until her first child is born. The Wafungu tribe of Northern Rhodesia recognize four social ranks that are dependent on possession of children. Young men are not qualified to sit in the council house before they are parents. Teknonymy, that is, change of name of the parents at the birth of a child, which is a common Bantu practice, is mentioned as further evidence of the social importance of parenthood. In some tribes avoidance between parents-in-law and children-in-law is not so strictly enforced after the birth of the first child.

BANTU BELIEFS: CONCEPTION, PREGNANCY, AND DELIVERY

In this chapter the chief data to consider are those relating to conception, reincarnation of ancestors, the period of gestation, abortion, parturition and its ritual—for example, disposal of the placenta and the umbilical cord. The destruction of deformed children and ceremonial ablutions for parents are also points of importance. The attitude toward twins and the ritual of naming have to be considered, while facts pertaining to teething, lactation, weaning, and early deformations such as extraction of teeth and scarification should be included. Demography, the attitude toward illegitimate children, and adoption of children, are likewise logically connected with a study of the family. So far as the southern Bantu are concerned most of these subjects have been briefly considered by L. Walk (1928, pp. 38-109), whose article is appropriate as an introduction to this subject.

In order to obtain an impression of the general attitudes and principles of Negroes toward procreation and early education, examples will be chosen from several Bantu and Sudanic tribes. These particular instances are selected as truly representative of the whole, though many local variations occur.

The emphasis placed by Negro tribes on the religious and magical aspects of pregnancy and childbirth might leave the impression that the physiological facts of procreation are not understood, but despite the general prevalence of spiritual beliefs and ritual in connection with childbirth the parts played by male and female are known. The Ovimbundu say that a man puts something into a woman, and the male substance grows in her. This is probably common knowledge in Negro tribes, but the importance of sexual intercourse and conception is completely eclipsed by a ritual procedure. The nature of the rites is well exemplified by data from the Akamba, who are northeastern Bantu Negroes. A medicine-man who uses his magic to induce conception rarely deals in any other form of treatment. He is a skilled specialist, and as such is held in high esteem. His treatment consists of giving a woman an amulet to wear over her womb, and smearing her navel and loins with a concoction. But the importance of taboo is shown by the statement, that no medicine-man can cure sterility if the newly married couple had their first sexual intercourse when the woman was menstruating (G. Beresford-Stooke, 1928, No. 129).

Women of the Ovimbundu regard cowrie shells as symbols of fertility, and for this reason a cord bearing one or more of these shells is worn about the neck. The charm is most effective if it was used by the wearer's mother or grandmother. Painting the face during pregnancy is a rite which is usually carried out by a medicine-woman to ensure normal development of the fetus. Undoubtedly magic is regarded as a necessary aid to physiological processes of reproduction, which are fairly well understood.

Taboos are necessary to ensure the birth of normal offspring. As soon as a woman discovers that she is pregnant she makes and drinks an infusion prepared from bark fiber to assure removal of the afterbirth. Eating the flesh of a hare during pregnancy is thought to give the baby a split lip. Flesh of the owl as part of the diet will give a child abnormally large eyes. During gestation a woman must not sit on a mortar, a pestle, or a piece of rock, for if she does so her delivery will be unduly prolonged. If a woman carries a burden in her cloth, the baby will be born with an abnormally long head. During pregnancy a woman mixes a prickly plant with her husband's food in order to make him faithful to her. This custom may have some connection with the fact that before the decline of native prohibitions a husband was not allowed to have relations with his wife until the baby had been weaned. The rule is a usual one

in Negro society, but the extent to which a monogamous man remained continent during the time of gestation and lactation is unknown. Children are suckled for two or even three years, and this period, combined with the nine months of gestation, demands a long abstention.

J. H. Weeks (1914, p. 107) states that, despite a popular idea alleging the strong sexual desires of Negroes, they are capable of restraints that Europeans would not tolerate. During her pregnancy and the lactation of her child a woman treats men as utterly non-existent.

The taboos observed during pregnancy by the Ovimbundu are typical instances of the Negro attitude toward gestation, which is regarded as a period in which actions of the mother may adversely affect the unborn child. In some tribes prohibitions affect the father of the child, and during delivery he may have to observe certain precautions. A difficult delivery is often attributed to an illicit love affair, and instances of a woman being asked to disclose the name of her lover in order to make parturition easier are numerous.

A genuine custom of *couvade*, in which a father goes to bed and acts as if he were the bearer of the child, appears to be rare in Africa, but an instance is given by C. G. and B. Z. Seligman (1932, p. 107). A wide geographical survey of the subject has been made by W. R. Dawson (1929).

The Ovimbundu have confidence in ritual for affecting the sex of a fetus. A woman who has borne only girls may secure male births, provided she can find a woman who has given birth to boys only. To reverse the sexes the women exchange their belts, which are plaited fiber girdles worn close to their bodies in order to support short skirts. Another method of changing a succession of male or female births is the arrangement of a ceremonial exchange of food between the mother of boys and the mother of girls. The food is passed from one woman to the other through a hole in the wall of a hut. Sometimes a woman who has borne only boys gives to the bearer of girls an arrow, a bow, a knife, and an axe, while she receives in exchange from the mother of girls a pounding pestle, a broom, a tray, and a basket. There is in these exchanges an obvious sex symbolism and an implied belief in the efficacy of sympathetic magic.

Normally, parturition takes place at home with two or more women in attendance, but delivery while at work in the fields causes no great inconvenience. Birth is assisted by pressure and massage, aided by magical means, such as untying knots from string and

opening lids of boxes if the labor is slow. These are general conditions and observances, but local customs vary. Generally, there is ceremonial treatment of the umbilical cord and placenta, which have to be buried, though the cord is preserved, according to some tribal usages. An Ocimbundu midwife cuts the umbilical cord of a girl with a hoe to ensure success in field work, but the cord of a boy is cut with an arrow to give prowess in hunting. The Ovimbundu say that if the father were present at the confinement his child would be ashamed to be born, therefore the father is excluded.

Washing, massage, and smearing with palm-oil are usual treatments for a newly born Negro child. The Ovimbundu follow a common practice when they give the infant a sip of beer and tie a cord about its waist. Destruction of deformed children is usual, but a child who is allowed to survive for twenty-four hours is unlikely to be killed. This Umbundu practice toward abnormal children is the common procedure. The Ovimbundu protect the fontanelle of a newly born child by covering the place with mucilage that hardens.

I was unable to discover that the Ovimbundu believe in the reincarnation of ancestors in infants, and no ceremony was found for discovering the identity of a newly born child. Yet in this respect the Ovimbundu are exceptional, and in view of the general Negro belief in a reincarnation of ancestors, it is probable that former Umbundu customs have fallen into desuetude. The essence of Negro religion is a belief in a parallelism of the spiritual and secular worlds. Spirits of the dead carry on their activities much as they did on earth. The dead visit their living descendants, affect their welfare, and may be reincarnated in their own kindred.

BANTU ABORTION AND INFANTICIDE

In common with a majority of Negro tribes the Ovimbundu know how to produce abortion by use of drugs; these they call "medicine for taking away the belly." The literature shows that mechanical means of securing abortion by pressure are sometimes used by Negroes, but the employment of potions is more common. The general attitude toward abortion is one of reprobation. Birth of a child to an unmarried girl is commonly censured by Negroes, although their customs often condone sexual laxity. Therefore, abortion is the resort of those who wish to avoid having illegitimate children. Instance can be found to show that a woman may abort in order to avoid bearing a child to a man she dislikes, and another

cause for abortion is the infidelity of young wives to an elderly husband who does not cohabit with them. Instances of the infanticide of illegitimate children are numerous, but examples of the survival of illegitimate children are also common, and in the latter case the children belong to their mother's kindred as a rule. Generally speaking, the illegitimate child of an adulterous union is the property of the legal husband. Death of a woman during pregnancy or delivery generally demands special funeral rites and ritual to avert evil consequences. At Ngalandi in east-central Angola I was informed that the rite of driving a stake through the abdomen of a pregnant woman after her corpse had been laid in the grave had been recently observed. Usually, the child of a mother who has no milk is not allowed to die but is suckled by another woman. This Umbundu custom is of common occurrence among other Negroes.

BANTU MULTIPLE BIRTHS

Information relating to the birth and treatment of triplets is scanty, but adequate data exist for estimating the attitudes of Negro tribes toward twin births. With regard to triplets, the Ovimbundu say that they are welcome. At the age of five years a male of the triplets, if there happens to be one, is presented to the king, to remain in the royal household as a son who, along with sons of the king's wives, has opportunities for inheritance and succession. Though twins are welcome, the Ovimbundu, in conformity with general Negro procedure, demand special observances. Such ritual of purification and protection is never absent even though the twins are both allowed to live, and no reprobation attaches to the mother. In all Negro tribes twins are regarded as abnormal, and their birth demands ritual to safeguard the children, their parents, and the community.

Among the Ovimbundu an *ocimbanda* (medicine-man) carries out rites for purifying a mother of twins, and the afterbirth is placed in two pots which are buried outside the village. A mother of twins receives from the *ocimbanda* a horn which she hangs round her neck; this she has to blow when crossing a river, when meeting a group of people, or if she sees a hawk overhead. People laugh at a mother of twins, and in jest call her a pig or a bitch because she has had a litter. This banter she takes in good part and replies jokingly. A mother of twins or triplets carries a rattle which she shakes instead of giving the ordinary greetings. Should a twin die, a wooden figurine is made to take the place of the dead child. This figure is held to the breast, or the other infant might die through loneliness. If the

surviving twin succumbs, the wooden figurine is buried with it. The making of a figurine of this kind to replace a dead twin is a common Negro custom.

The regard of the Ovimbundu for twins is not, however, a true indication of the general Negro attitude. African customs have to be modified under European administration, but in former days a twin birth often led to execution of the twins and the mother also. In some tribes only the twins were killed, or perhaps one of them was allowed to survive. Customs varied locally.

J. H. Weeks (1914, p. 116) states that the Bakongo dislike twins because of the extra trouble they give; therefore, one of them may be starved to death and replaced by the wooden figurine previously mentioned. In case of infanticide or natural death, twins are buried at crossroads. This is a form of interment given to suicides and people who have been killed by lightning, for such persons are said to have died dishonorably.

A survey of the evidence relating to treatment of twins among the south African Bantu shows the general attitude to be one of hostility and fear. S. S. Dornan (1932, pp. 690-750) states that most Bantu tribes regard the birth of twins as demoniacal, unnatural, monstrous, and portentous of evil to the family and the clan. Calamity can be avoided only by death of the infants. A wide survey of Bantu and non-Bantu tribes south of the Zambezi indicates that only a small minority of the tribes described regard the birth of twins as fortunate for the family, but in some tribes, namely, the Zulu and the Herero, a difference of opinion exists with regard to the malign influence of a twin birth.

In the Ovambo tribe, twins were immediately killed by suffocation, and their mother had to submit to an elaborate ceremony of cleansing. The Makaranga and the Bavenda regard twins as a presage of evil for the village in which they were born. Twins of the Makaranga tribe were killed at once by the midwife, and the parents had to be purified. Twins were thought to have an adverse effect on the quantity of rainfall. Among the Baronga, Bapedi, and Basuto Bechuana, twins were put to death, and their mother was purified by a medicine-man. Dornan points out that among Bushman tribes infanticide of twins might sometimes be due to economic causes. The Bushmen are wandering hunters who at certain times of the year live on the margin of subsistence. Reasons for infanticide of twins among the southern Bantu are magical and psychological, not economic. A woman of the Fingoes who gave birth to twins

was regarded as having had dealings with spirits, and as being reprobate. If she gave birth to twins at her first confinement, she and her children were at once killed. If the confinement were not her first, one twin was killed, and the mother together with her surviving child was purified ceremonially (S. S. Dornan, 1932).

In the Lamba tribe, according to C. M. Doke (1931c, p. 133) a twin birth is regarded as normal if the infants are of the same sex. But birth of twins of opposite sexes is a sign of ill luck, and the father has to visit a medicine-man who gives him a concoction to smear over himself, his wife, and the twins.

BANTU NAMING AND AGE RECKONING

In connection with the naming of children, several important beliefs and customs occur. Several of the usages commonly found among Bantu tribes can be illustrated by reference to procedure among the Ovimbundu. The custom of teknonymy prevails, and in accordance with this practice parents change their names when their first child is born. In a certain family, the name given to a first child, a girl, was Vitundo. The name of the father, who had hitherto been called Cingandu, was changed to Savitundo, meaning "the father of Vitundo." At the same time the mother's name, Visolela, was changed to Navitundo, meaning "mother of Vitundo." If the first child dies the parents revert to their original names, but make the same kind of change if a second child is born.

A child who is born after twins is called Kasinda, "to push," and the twins themselves are called Hosi and Njamba, the Lion and the Elephant. The Ovimbundu have no secret names, but in this they are somewhat exceptional. Names of the dead are never mentioned, since this might call up spirits of the dead who are feared; taboo of names of the dead is usual in Negro society. Ovimbundu children may change their names at the age of about sixteen years and often do so if the names are distasteful to them. A youth named Katito, meaning "Little," changed his name to Mukayita, the meaning of which is unknown, though presumably the new name conveyed some pleasant idea. Change of name during sickness is thought to aid recovery, possibly because of the idea that malignant spirits who are causing the illness may be deceived. An Ocimbundu now named Katahali suffered sickness and misfortune, so he abandoned his former name of Kopiongo. His present name means "he who has seen trouble." A sick child is thought to benefit by receiving a new name of an unpleasant kind, for example *ongulu*, meaning "a pig."

Names sometimes give an indication of descent. The full name of my interpreter was Ngonga Kalei Liahuka. Ngonga means "eagle," Kalei, "one who works for the king," and Liahuka is the surname of Ngonga's father. A father chooses the names of his three first children, whether boys or girls, and a mother selects the name of the fourth child, whether male or female. A first son usually receives the name of his paternal grandfather, and a first daughter takes the name of her father's sister. R. Routil (1929, pp. 315-319) and H. Wieschhoff (1937a) give further information on naming.

Ages are not known with certainty after about five years, but up to this period reckoning is made by remembering the number of times that maize has been sown. *Ulima* is the period from one annual sowing to the next. The Ovimbundu, like many Negro tribes, can count up to high numbers for purposes of trade, but they do not apply their knowledge for keeping account of ages.

Many Negro tribes watch the process of teething with anxiety, since an appearance of the incisor teeth of the upper jaw before those of the lower jaw is an augury of ill luck. J. Roscoe (1923b, p. 258) states that for the Bakitara an unusual event of this kind implies that offence has been given to gods or to ancestral spirits. The offending teeth are extracted, and a medicine-man is asked to offer sacrifice to the child's ancestors. "Only shame and disgrace attach to such a child, and whatever rank it might attain, it could never enter the presence of the king."

FURTHER EXAMPLES OF BANTU CUSTOMS

The background of Negro belief and ritual relating to pregnancy and childbirth can be further illustrated from H. A. Junod's Bathonga (1912, vol. 1, pp. 35-54; 183-190). The Bathonga have the idea that children are given by the gods; consequently a sacrifice to the gods is thought to be necessary if a woman is sterile, but in addition to the religious rite native doctors have many drugs to remedy barrenness.

Sterility of a wife may be a cause for divorce, but usually the parents of the barren wife provide a younger girl as a second wife. In allowing coition during pregnancy the Bathonga depart from the general Negro rule; in fact, they say that sexual intercourse is favorable to the growth of the fetus. Prohibitions during pregnancy are of the general type, and the acts tabooed are those which are thought capable of injuring the unborn child. Two of the clans prohibit pork as food for girls because pigs move their heads sideways when rooting

for food, and it is thought that the infant would make delivery difficult by moving its head in this way. The Bathonga observe the usual taboo against menstruating wives. A wife in this condition must keep to the left half of the hut, and may not cross the middle line. She sleeps on her own mat and wears special clothing. When she cooks mealies, the food should not be touched by her hands. The Ovimbundu do not allow a menstruating wife to cook or to take the evening meal to her husband at the men's house.

The Bathonga hold the common belief that a protracted and difficult birth proves that the child is not legitimate. In a case of this kind the husband is called, and a test of the child's legitimacy is made by giving the woman some of her husband's semen to drink in water. The saying is that if the child is legitimate he will "feel his father," and will be willing to be born. Should delivery still be slow, adultery is assumed, and the midwife urges the woman to give the name of her lover. "If a woman dies during pregnancy she must be cut open to determine the sex of the child. This must be done in the grave before the earth is filled in. The woman might become a 'god of bitterness' if this precaution were not observed."

For naming a child several methods are available, one of which is of particular interest because of its association with a belief in reincarnation. The name of an ancestor is suggested by the medicine-man, who then throws the bones, and, if necessary, other ancestral names are suggested until a particular arrangement of the bones shows that the correct name has been chosen (H. Wieschhoff, 1937).

If a child cuts its upper teeth first, the omen is bad. Before a string is tied round the child's waist, the infant is hardly considered as a human being, but after a string smeared with the father's semen has been tied in this way the child is a member of its kindred. Presentation of a child to the first new moon after the birth is an act which is observed by the Baganda (Roscoe, 1911, p. 58), the Bavenda (Stayt, 1931a, p. 89), and the Bathonga (H. A. Junod, 1910, p. 130), but the general distribution of the custom has not yet been worked out in detail.

The attitude of the Bathonga toward twins is peculiar, for though the infants are disliked they are esteemed and feared. A twin birth is regarded as a defilement which has to be removed by special rites, and in former times one of twins was strangled or was left to die of starvation. A medicine-man who removed the defilement was highly respected because only he knew what drinking potion to give to the father and mother of twins. At the present time infanticide

is not practiced, but a mother of twins has to leave the village at once to live in a hut apart from other dwellings. Twins are not presented to the moon, and they are regarded as bad characters. When the twins begin to crawl and approach other huts, people throw cinders at them. The power that causes death by lightning also determines the birth of twins; therefore, the infants are called "Children of Heaven," and appeal is made to them for protection during a thunderstorm.

Valenge women of the southeastern Bantu are despised and sometimes divorced if they are barren. A sterile woman visits a medicine-man in charge of divining bones, or she may send her father or mother to this practitioner, who declares that some act of sacrifice is lacking. The ancestral spirits are offended, and an offering must be made to them before the curse of sterility can be removed. E. D. Earthy (1933, p. 84) mentions that lactation lasts two or three years. When weaning a child the mother rubs her breasts with a species of *Capsicum*. Pounded leaves from a "tree of forgetfulness" are mixed with chicken and given to the child as food. The child is often sent away for a while. "If a family has adopted a child it becomes of the sib to which the family belongs, and its marriage is arranged accordingly. The marriage prohibitions are the same as for a real child of the family, with the added prohibition that it may not marry into the sib from whence it came. The adopted child is given a medicine in order that it may forget everything about its former life." Adoption of children is a fairly common practice among Negroes.

WEST AFRICAN (SUDANIC NEGRO) BELIEFS

Negroes of west Africa hold beliefs and observe practices that are in harmony with those recorded for Bantu Negroes. R. S. Rattray (1932a, vol. 2, p. 332) calls attention to the wearing of girdle leaves by women, not only as a mark of age and social distinction, according to the kind of leaves and the position in which they are fixed, but as a sign of motherhood. "Women who have not yet borne any children, if they wear leaves at all, will do so only at the back, but after childbirth at back and front."

The evidence given by R. S. Rattray (1923, pp. 36, 77, 85, 106) for Ashanti emphasizes the belief in reincarnation of an ancestor in the newly born child, and the dependence of conception and safe delivery on divine intervention are illustrated by the instances given. In the sixth month of pregnancy a fowl provided by the wife is sacrificed by her husband, who makes a prayer to his *ntoro* gods, saying, "Allow this infant to come forth peacefully." The husband

and wife, after smearing themselves with white clay have intercourse, and both believe that violation of certain prohibitions will result in an abortion.

Adultery, eating sweets, quarreling, and looking at deformities are all regarded as causes of mishap to the fetus. Difficult delivery is said to result from adultery, and if the usual magical remedies fail the name of the seducer is asked. Deformed children are destroyed at birth, and even slight malformations such as supernumerary toes or excess of nipples (polymastia) is sufficient cause for infanticide. A woman should not be buried with a child in her womb, for if this were done the whole nation would be adversely affected. A pregnant woman cannot be executed, but in former days both the woman and her child were killed after delivery.

If delivery proceeds normally the four elderly women who act as midwives shout, "Hail, so-and-so," and at the same time they name the child after the day on which it was born, but other names are given later in life. After the umbilical cord has been cut on a piece of wood, one of the women moistens her finger with rum and rubs the infant's throat, then all say, "So-and-so has arrived, let him [or her] sit down with us."

When an Ashanti child is born a ghost mother is thought to mourn her child in the spirit world, and if the infant dies within eight days death is said to be due to the fact that the ghost mother recalled her child, which had been temporarily loaned while she went on a journey. A male child is named by the paternal grandfather, who takes the infant on his knee, spits in the child's mouth and says, "My child [name] has begotten a child. I call him after myself, naming him——." Spitting to confer a blessing is by no means unusual, especially among the Masai and other Half-Hamites. The custom is mentioned by A. C. Hollis (1905, pp. 115, 315). Among the Lango, a Nilotic tribe of Uganda, spitting is an important part of ritual (Driberg, 1923, pp. 162, 249, 252).

In Ashanti, twins were not killed, with the exception of those born in the royal family. In all families children are greatly desired, and a childless man is sometimes taunted with the sobriquet, *kote krawa* (wax penis). The third, sixth, and ninth children are the lucky ones; the fifth child is said to be susceptible to misfortune.

Purification rites and prohibitions connected with childbirth are mentioned by C. K. Meek (1931a, p. 362) who states that the Chamba, neighbors of the Jukun of east Nigeria, do not allow a mother to enter the kitchen during the week after delivery, and not

then unless all discharge has ceased. A rite exists for removing maternal impurity and dedicating the child to the gods. The spiritual identity of the child is discovered by a diviner, who is said to be a reincarnation of a dead relative of the father or the mother. The name of the reincarnated relative is not disclosed, and a temporary name is given to the infant. Deformed children are killed because they are thought to have been begotten by an evil spirit. The Jukun do not believe that twins are a result of adultery; the event is explained by saying that two dead ancestors wished to be born simultaneously. Sometimes a twin birth is said to be due to the fact that the pregnant mother walked between two people.

The Ibo of Nigeria provide an instance of the detestation of twins and the woman who bore them. "For a woman to imitate goats and dogs fills people with unspeakable disgust." Popular belief says that the twins have resulted from copulation with an evil spirit; therefore, the infants are thrust into a pot and buried in a lonely spot (G. T. Basden, 1921, p. 58). The complete antithesis of this attitude is found among the Lango, Nilotic Negroes, who regard birth of twins as a mark of divine favor (Driberg 1923, p. 139). Germann (1933, p. 86) states that among some tribes of north Liberia twins are welcome, and magical properties are ascribed to them. The father of one of the twins is thought to have been a ghost, but both infants are regarded as having magical qualities since nobody can say which of them was spiritually begotten.

Among the Edo-speaking people of Nigeria, prenatal customs vary locally. According to one local custom a woman washes a cowrie shell and ties it round her waist as soon as she finds herself pregnant; she also drinks a potion made by the medicine-man. The husband of a pregnant woman sacrifices a goat to his wife's father when the first child is born. From the fifth month of pregnancy a woman changes her style of hairdressing and makes yet another change in the eighth month. In one center, when the umbilical cord drops off, the father ties it to a kola or a coconut tree; this tree is the property of the child when it grows up. Usually the placenta is buried. Ceremonial washing of the mother, the child, and the house in which parturition took place are common procedures (N. W. Thomas, 1922, pp. 253-255).

The subject of naming has been considered by several ethnologists. A. Le Hérissé (1911, p. 235) states that a Dahomean has several names which are given to him at various stages of his life, but he has to abandon and forget former names when new ones are

conferred. Some of the principal names are those given immediately after birth; those conferred after consulting Fa or Fate; and names given to *féticheurs* after their training. Surnames constitute a fourth class. Importance is attached to names conferred by a king and to those given by wives to their husbands.

The chief kinds of personal names mentioned by C. Spiess (1918, pp. 104-159) are: (1) A name denoting the day of the week on which the child was born. (2) The name of the god who granted supplication for the child. (3) The death name, which assures rebirth of a child within the family. (4) The *anspielungsnamen*, which refers to some incident or circumstance of birth. (5) The *trinknamen*; this is a sobriquet that is sometimes used ironically, the Ewe word for drink-name is derived from *aha* (palm wine) and *no* (to drink). (6) Names indicating the status of a person who has been freed from slavery. (7) Names given at puberty.

The most detailed record of the meaning of personal names is that given by L. W. G. Malcolm (1924, pp. 34-38) who has prepared a record of about two hundred names of boys and girls, with literal translations of the meanings. The translations of a few of these names are: "A lonely person," "One of a large family," "Born on a day of trouble," "Born on the market day," and "It is best to mind one's own business."

CONCLUSION AND READING

The beliefs and practices recorded here are representative of the fundamental ideas connected with pregnancy, birth, and early infancy. Many local variations occur, and considerable work remains to be done in observation and classification of type ideas, and in showing the relation of these to religion and magic.

Some advance has been made in compilation of data, and comparative study by Hambly (1926a), who gave a broad sociological treatment in "Origins of Education. . . ." D. Kidd (1906) produced a useful account of the training of Zulu children. A brief record of child welfare and education among the Wanguru is given by C. T. Dooley (1934). Evans-Pritchard (1936a) has a study of customs and beliefs relating to twins among the Nilotes, and Schapera (1927b) made a survey of the same subject among south African tribes. R. E. Ellison (1936) published an article dealing with marriage and child-birth among the Kanuri.

The literature is extensive, but we still lack an intimate physiological and psychological study within the home for a considerable period. Such observation would help to explain the social and

moral attitudes that are established in the main types of family. We shall see later the prevalence of maternal dominance or of paternal rule, or perhaps a blending of the two, but detailed observation of infantile adjustment is a psychological task of the future. Perhaps the closest approach to this type of study in Africa is to be found in A. I. Richards' "Hunger and Work in a Savage Tribe," but for Melanesia the family studies of M. Mead are available. Dr. M. Mead's technique might with advantage be applied in Africa, preferably by women, for example, nurses who have occasion to make frequent visits to homes where they can make intimate contacts with children under five years of age.

HOME INFLUENCE, GAMES, DANCING, MUSIC

From the time when a child begins to crawl about the hut his education is continued informally by contact with other children and adults, until the time for formal initiation into the tribe. Very early in life, often within twenty-four hours, the tying of a waist-string, and somewhat later the giving of a name or names, definitely incorporates the infant with his kindred and gives him a social standing. The problem of education is concerned with events and conditions that bring an individual into harmony with the social pattern of his tribe, and this process of assimilation is effected by home influence, play, music, dancing, and often by formal instruction in the seclusion of the bush where initiation ceremonies are performed.

PARENTAL DISCIPLINE

Of the direct and indirect factors concerned with education perhaps that of the home influence is the most difficult to assess. As Dr. M. Mead has frequently pointed out, ethnologists often concern themselves with details of obvious formative elements to the exclusion of the apparently trivial facts and conditions of family life within a hut. Yet we can be assured that the discipline accorded at home is of practical value, for many observers agree with R. S. Rattray (1933, pp. 456-471), who asserts the efficacy of indigenous education. He says, "The result of the primitive African child's upbringing was to produce a type of man or woman whom anyone would be proud to call a friend."

Despite the authority of the maternal uncle in most Negro tribes, parents assume definite responsibilities in the training of children, and the nature of the controls can be illustrated by reference to the home life of the Ovimbundu. Ngonga said that his "stealing hand" was held for a second near the hot leaves that cover a cooking pot to

keep in the steam. If a child steals an egg that is cooking, it is held between his hands. When receiving a gift a child is taught to accept the present with both hands, for to hold out one hand is a depreciation of the gift. When receiving a gift, however small, a child must say "kuku," which means literally "grandfather" or "elder," but colloquially the word is used as a greeting, or with the meaning "Thank you," or "I beg your pardon." Several rules governing greetings between persons of equal or disparate ranks exist, and a child is expected to know and to observe these codes.

In the men's house young boys sit quietly, and they are expected to remain silent until addressed. Lying is strongly disapproved, and a liar or deceiver is called *ohembi*. The Ovimbundu appreciate hospitality, *unu*, which is strongly enjoined, while greediness is discountenanced. Spitting near the house of a village chief is forbidden, and in the words of Ngonga, "If you did that in the old days you would have to pay something." By correction, and by unconscious absorption through suggestion an Ovimbundu child, like children of most Negro tribes, adopts certain standards that are regarded as an indication of good manners and right attitudes toward other people.

GAMES

The educational value of games, music, and dancing lies in their formative influence over character and occupation. Games include many activities which are imitations of occupations for adults, while music in all its aspects is more important in Negro society than in more complex and more sophisticated groups. In highly educated societies esthetic values and amusement are of primary importance in association with music, but in Negro society, music, and especially community dancing, are indispensable for the preservation of certain social and religious attitudes. Music welds the parts of the social pattern in a way which is unknown in more erudite societies (Hambly, 1926b).

A classification of African games given by F. Starr (1909) provides a useful approach to the subject. Starr's grouping of games includes imitative play; the use of simple devices such as tops, bull-roarers, and string figures; and activity in such sports as running, canoeing, swimming, climbing trees, and wrestling. He also makes categories for round games, guessing games, and gambling. For each of these aspects of play a large body of literature is available, but all the main types of recreation and the educational values which they represent can be illustrated by reference to games of the Ovimbundu.

The Umbundu word for games is *olomapalo*, and to play is *oku papala*, but each game has its own name. As in division of labor, activity in games depends on age and sex. Some amusements are considered suitable for boys only, others for girls only, while in early years boys and girls often associate in imitative play and round games, though separation of the sexes for play takes place before the tenth year. Some games are played by men only and others by women only.

A round game imitative of the depredations of a leopard is played by Ovimbundu children of both sexes, ranging in age from five to ten years. This is typical of a category of similar games of a non-specialized type played by Negro children. One child imitates the movements of a leopard, one of the older girls is the mother, and the rest of the players are her children. To the accompaniment of a simple refrain which is repeated indefinitely all join hands, dance in a circle, and sing. Then the leopard dashes in and steals a child, who is carried off to the bush. After the leopard has paid several visits, a general hunt is organized until all the children are found. As they are discovered, one by one, they are made to sit apart pretending to pound grain on the rocks, meanwhile singing a refrain which is usually chanted by women when occupied with crushing maize.

Ovimbundu boys play games of warfare and hunting, and in the former mimicry girls sometimes act as prisoners. Two sides, each with a leader, are chosen for defence and attack respectively. The victors run about the village taking prisoners from among girls and small children, who are tied with bark rope. Strong boys are selected as hunters whose dogs are the little boys running on all-fours. Toy bows and blunt wooden arrows are used in this pastime. The boys who pretend to be game roll over in the grass when shot; then the hunters run forward and tie the dead game to a pole, or the game may be expected to cling to the pole while being borne back to the village. The Ovimbundu were at one time renowned carriers who traversed Africa. Boys still make up loads in the correct way, and these they carry while singing the traditional marching songs.

Up to the age of sixteen Ovimbundu boys play the game of *ocitina*, in which bulbs from a figwort are rolled between two lines of competitors; the winners are those whose arrows hit the greater number of bulbs. Boys make a hoop by binding the ends of a long pliable branch. The lasso is a piece of rattan or bark having at each end a corn cob or a small stick. One boy bowls the hoop so that it passes in front of his opponent who tries to lasso it. In the

game of hide-and-seek a knife is hidden, then a boy who has been hidden comes in to act as searcher. His proximity to the hidden knife is indicated by playing a musical bow. Certain taps mean that the knife is far away, but as the searcher draws near to the hidden object the bow sounds "yelula! yelula!" meaning "pick it up."

In common with many Negro tribes the Ovimbundu have a whipping top, but they do not possess the type of top used in some parts of west Africa for gambling. T. J. Alldridge (1910, p. 229) states that the Mendis of Sierra Leone place a mat on the ground, and around this four players are seated. The mat is divided into four courts. Each player sets a bone top in motion with a twist of his fingers, and hopes that when two tops collide his own will knock that of his opponent off the mat. The distribution of various forms of top in Africa, likewise the histories of the types, has, so far as I know, not been studied.

A gambling game played in most Negro tribes, and chiefly by adult males, is that generally known by the name of *mancala*, though many local names are used, and the rules of the game vary. A *mancala* board, according to locality, has two rows of six holes, or four rows of seven holes, and if a board is not available holes are scooped in the ground. The counters, which represent men, may be nuts or cowrie shells, a few of which are placed in each of the holes representing villages or forts that have to be captured. At each end of the board is a hole to accommodate the captured pieces. The game is one of quick counting and transferring of counters from one hole to another. The gambling stakes are high and out of all proportion to the wealth of the players, who sometimes have to part with their clothes and every possession. The Ovimbundu call the game *ocela* and use a board having holes arranged in four rows of seven. Evidence of such a game may be seen in early Egyptian records, but A. Erman (1894, p. 288) states that the Egyptian game of similar type to *mancala* has not been identified with certainty. Exportation of slaves from west Africa introduced the game into South America and the West Indies (Herskovits, 1932b), while Arab influence carried *mancala* to many parts of Africa and to the far east (Culin, 1894).

R. Davies (1925, pp. 137-152) has prepared an article describing Arab games and puzzles that have a vogue in the eastern Sudan. Other references to *mancala* are Brauholtz (1931, No. 131) for Uganda, and T. Sheppard (1931, No. 243) for Mombasa.

A very widely distributed game among Negroes is the making of string figures, whose complicated forms are carried out with great dexterity. A. W. Cardinall (1927a, p. 89) states that in the locality where he observed the game a piece of string in the form of a long loop is taken by each of two children, both of whom start with the palm tree pattern. After this has been made, one child quickly calls "parrot," and both compete to make the design as fast as possible. The other child may call "dog," and so on until one of the competitors is unable to make the pattern. Cardinall saw thirty-eight patterns made, and for some of the designs children used their necks and toes in addition to their fingers.

The subject of string figures has received attention from Cunningham (1906), A. C. Haddon (1906), K. Haddon (1930), K. Haddon and H. A. Treleaven (1936), J. Hornell (1930), K. G. Lindblom (1930), and J. Parkinson (1906).

In all tribes young girls spend considerable time in imitating the occupations of women. They are fond of molding clay into the forms of cooking pots, and many girls attempt the weaving of baskets. Dolls are made from corncobs, which are dressed in fragments of trade cloth decorated with beads. The Yoruba make dolls from flat pieces of wood, and in the eastern Sudan children manufacture dolls by placing rounded pieces of wax at the ends of thin sticks. The breasts are represented by pellets of wax. Some human hair is stuck on the head, while eyes and mouth are marked by small white beads.

All the games mentioned or some similar types are generally distributed among Negro tribes, and some forms of sport which are less general and less spontaneous are known. Widely distributed in the western Sudan are wrestlers and jugglers, who travel from one market to another, and in addition to these are showmen with puppets, buffoons, and raconteurs. Wrestling matches in which the combatants wear spiked wristlets are held locally (Lindblom, 1927a; Meek, 1927, No. 29). Flogging contests, in which rhinoceros-hide whips are used, are a form of sport in the eastern Sudan, but most of these entertainments are organized by special performers, and the games are not generally characteristic of Negro life.

DANCING AND SINGING

Dancing may be only a pastime; in fact, drums are heard almost every evening in Negro villages calling young people to a social dance which has no specific purpose. On the contrary many dances

are expressive of collective emotions, for example, at initiation into the tribe, at funerals, during agricultural rites, to aid rain-making, or to mark the beginning of war. Some of the most important dances of Negroes are held during ceremonies connected with ancestor worship, and during these rites masked figures impersonate the dead, who are thought to return to occupy a shrine temporarily. Among the Ovimbundu the *onyaco* dance is performed to give strength to a sick chief by a process of sympathetic magic. A strong man dances while grasping a small ball in his outstretched hand, while other dancers pound his muscles to make him release the ball. When he has reached the limit of endurance, he hands the ball to another dancer, and the rite is continued indefinitely.

Despite a tendency for ceremonial dances to decline under European influence, the majority of Negro tribes retain some of their ritual dances. Zulu males are still able to perform war dances in which thousands take part, and the Half-Hamitic Masai and Nandi have their ritual dances to celebrate the spearing of lions. Dances connected with secret societies and tribal initiation still flourish widely. Some of the older Ovimbundu men and women perform dances and sing songs which are unknown to the younger generation. For example, there is a dance that was performed only at new moon, so that "there would be no sickness during that moon." Occasionally old men dance in commemoration of warlike events. A group of men shuffles slowly while a solo dancer chants a story in a singsong voice. The dance is accompanied by drinking of beer and the slaughter of an ox.

Although dancing is practiced all the year, the months following a good harvest are the most favorable, since supplies of grain are available for brewing beer. In Negro tribes the harvest, making beer, dancing, and the selection of partners in marriage are closely linked factors. A remarkable feature of Negro dancing is the endurance of the performers, who seem to become intoxicated with their rhythm as much as with the beer they consume. From soon after sunset to dawn the shuffling and swaying continue, while the drummers throw back their heads and play continuously for hours with an ecstatic look on their faces.

Although musical ability is general, especially with regard to dancing and singing, certain performers show exceptional aptitude. Specialization in dancing, singing, and playing instruments is usual among Negroes, and among the Ovimbundu, as with most tribes, names for performers of marked ability exist. *Onjimbi* is the

Umbundu word for a singer who starts choruses, and *ucili* is a dancer of more than ordinary skill. Men are the chief musicians in Negro tribes, but relatively few men perform on musical instruments, and a high degree of specialization is the rule. Each village has a few expert instrumentalists, who may be drummers only, players of the marimba, or performers on some other musical instrument, but ability to play several instruments expertly is exceptional. Drummers specialize among themselves; thus, there is a specialist who plays a friction drum, another who performs on the long tubular drum, and one who plays only the wooden drum which has no membrane.

Composers of topical songs, which are often given impromptu at a dance, are to be found in all Negro tribes, and both men and women perform in this way. The satirical songs that function as a crude social control have been described by J. H. Weeks (1909, p. 447) who states: "The greedy man, the coward, the thief, the scamp who disregards the feelings of others and rides rough-shod over all the social and communal institutions, the man who is impotent, the man who is accused of witchcraft and will not take the ordeal, also the incestuous, are all put into the songs which are sung at village dances, and there is no more powerful factor in influencing the native to good or evil than the mention of his name in an impromptu song at the village dance."

The ability of Negroes to compose marching and paddling songs, also the esthetic value of some of the poetry, have been mentioned in connection with language as a means of emotional expression.

Study of the musical instruments of Negroes can be approached by classifying musical devices according to the method of producing sound. The principal divisions are instruments of percussion, wind instruments, those with strings, and those that rely on friction. In each main category are many primary forms, each of which has a characteristic distribution, and as local variations of the main types hundreds of varieties occur.

PERCUSSIVE INSTRUMENTS

Talking drums of Ashanti, Liberia, and the Cameroons were described in connection with languages, since the production of music is not their function. Hollow, cylindrical, wooden drums having a slit or slits at the top often serve for signaling. A flat form of signaling drum is used in the southwest Congo region and northeast Angola.

Drums are the most important of all musical instruments used by Negroes because they are indispensable in dances that form a

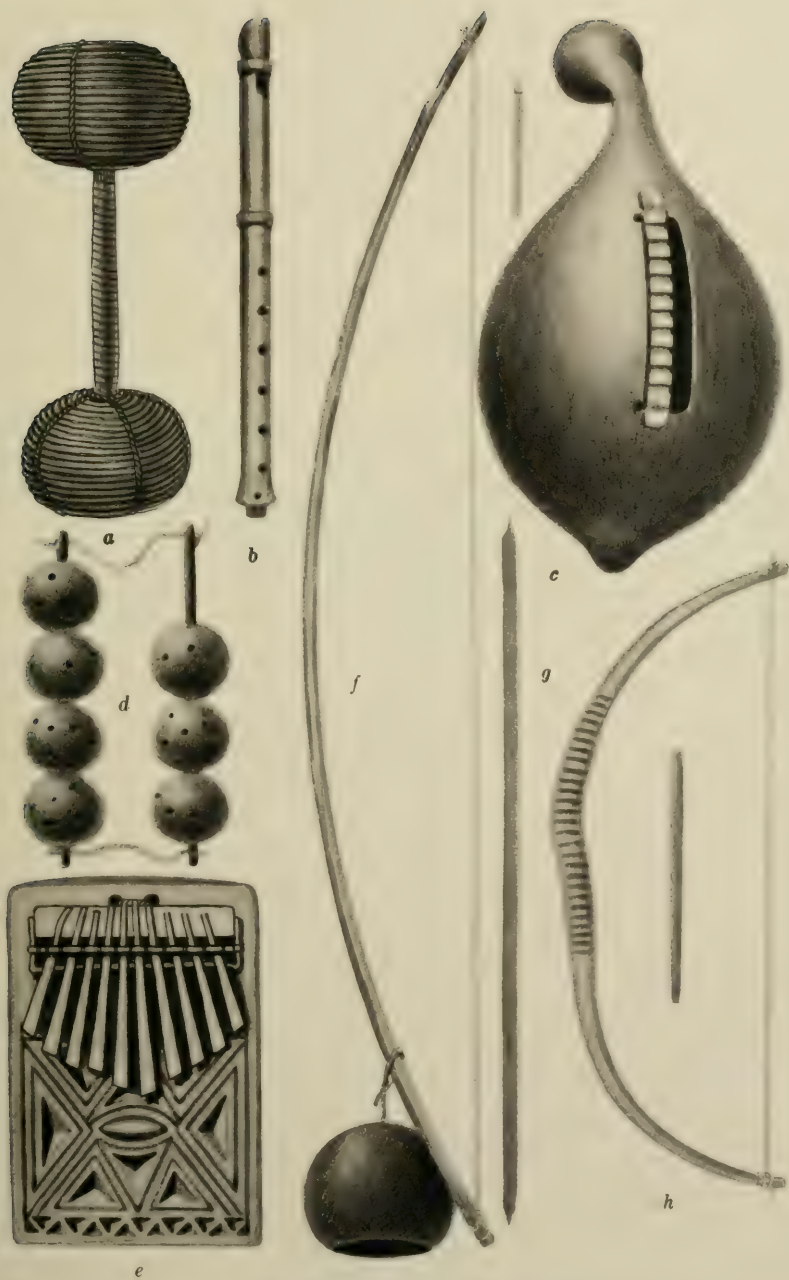


FIG. 77. Musical instruments from Angola.

background of social and religious life. The commonest form of drum which is generally associated with dancing has a membrane at one or both ends. A form of wide distribution is long and cylindrical, and this is a type of instrument which a performer often holds between his legs, or leans against a framework of sticks. Usually the hands are used in drumming. Before use the tympanum is warmed, and the pitch may be changed by adding lumps of wax or rubber to the sides of the instrument. The membrane is generally kept in position by wooden pegs over which it may be more or less tightly stretched. This type of instrument is often used to form a quartet of drums of different lengths, with notes of different pitch. Each performer preserves his own rhythm, so that a compound rhythm is produced.

Pottery drums made by stretching a piece of hide over the mouth of a wide earthenware vessel are not typical of Negro instruments, though such types are frequently seen in northern Nigeria and other parts of west Africa. Pottery drums are widely used in north Africa, and by the Tuareg of the Sahara. Hourglass drums, as the name implies, are constricted in the middle. This form of instrument may have a membrane at either one or both ends. According to local custom, a performer plays with his fingers or with a curved drumstick, and the instrument may be held under the arm, or between the knees of a seated performer. Cylindrical wooden drums of light construction having a membrane at each end may be slung round a musician's neck or held under his arm. Such a drum is often ornamented with jingling brasswork, and it is played by tapping the membrane with a curved wooden stick. Fig. 74, *b* shows two men of the Yoruba tribe of southern Nigeria, one of whom is playing a drum while the other has a wind instrument known as the *algaita*, probably of north African origin.

The sacred character of many drums owned by Negroes is of more importance than the form of instrument or the kind of music produced. A drum which is regarded as a possession of a village or a tribe is the focus of the social and religious life. An instrument of this kind, often beautifully carved (Fig. 96) is specially housed in or near a chief's compound. The drummers have high social standing on account of their calling and the fact that they are a permanent part of the chief's household. Feeding sacred drums by pouring over them libations of beer, blood, or milk is not an uncommon rite, and the drum itself may be regarded as a shrine into which the spirit of a dead chief enters on ceremonial occasions.

From the Angas tribe of the Bauchi plateau, eastern Nigeria, I obtained a drum of the type regarded as sacred under certain conditions. The owner of the drum was still alive and at liberty to part with his possession, but similar instruments which had belonged to men of distinction, now dead, were housed in a shelter. Over the threshold no one was allowed to pass, and purchase of one of the sacred instruments was impossible.

Data from R. S. Rattray's "Religion and Art in Ashanti" clearly indicate the sacred character of certain drums played in the *adae* ceremonies, at which a reigning chief does homage to the ghosts of his predecessors. The *aperde* drums, which were four in number, were used to form an orchestra. Enemies taken in warfare were killed, then their blood was poured over the drums, and their jaw-bones were used for decorating the instruments. *Aperde* drums are specially associated with ancestral spirits; therefore, the instruments are used in sacred rites which are carried out at the burial place of chiefs. The player of a drum known as *sika akukua* is the chief of all the drummers of the King of Ashanti. The drum, which is encased in gold leaf, is kept in front of the golden stool. The player of *sika akukua* may not be killed no matter how serious his offence.

Although men are usually the drummers in Negro tribes, there are many notable exceptions indicating that certain drums may be played by women only, and only on specific ritual occasions. In Ashanti the *dono* drum has a tense membrane at each end, and the tone of the instrument is altered by tightening or relaxing the cords which keep the membranes in position. Pressure is applied to the cords by holding the instrument under the arm. Women may beat this drum, which is used at puberty ceremonies (Rattray, 1927a, p. 283). K. G. Lindblom (1916, p. 169) refers to women of the Akamba, who are northeastern Bantu, beating their big drums and meeting in council. At a python dance which is part of the initiation rites of the Bavenda, drums are used. The drums may be played by either sex, but at the *domba* ceremony they are more often played by girls (Stayt, 1931a, p. 115). A drum known as *nkiringwane* and another (*ntakula*) are used during puberty initiation rites of Valenge girls. The first of these instruments contains sacred symbols representing male and female principles; another symbol representing the clitoris is also placed in the drum (Earthy, 1933, p. 117). The historical importance of drums as sacred objects which are bequeathed from a ruler to his successor, and the ritual significance of drums have been discussed by P. R. Kirby (1934, pp. 30-31),

F. G. B. Reynolds (1930, No. 23), A. E. Robinson (1932, No. 300), and D. F. Heath (1937, No. 91).

Iron gongs are ancient and widely distributed instruments of percussion, varying in size from a few inches to three feet in length. As early as the year 1600 Andrew Battell gave an account of the use of iron gongs in north Angola, where the instrument was struck when a war chief of the Jagas was about to address his troops. A *marimba* consists of slats of wood, from nine to seventeen in number, fastened transversely across a wooden frame, or threaded on two parallel cords which have to be held taut by two assistants, one at each end of the instrument. The slats are struck with two rubber-headed sticks. In most forms of *marimba* a gourd is fastened directly under each slat of wood, and as the gourds are of different lengths the vibrating columns of air vary; hence, notes of different pitch are produced when the boards are struck. The method of playing recalls a xylophone, but application of European names such as guitar, banjo, fiddle, or harp to African instruments is often misleading since resemblances to European forms are superficial, and methods of producing sound are different from those adopted in Europe. The African musical scale differs fundamentally from that of Europe.

Rattles (Fig. 77, *a, d*) made from gourds, small baskets, hollow seed pods, and iron are the most numerous of percussive instruments. These may be shaken by hand, or they can be attached to the ankles, knees, or waists of performers. The use of wooden clappers struck together by hand is common.

WIND INSTRUMENTS

Wind instruments include side-blown horns of antelope that give out deep, booming notes. Before ivory was scarce large side-blown trumpets were similarly employed, and many of them were associated with sacred rites. End-blown wooden flutes are fairly common (Fig. 77, *b*), and some chiefs of the Ovimbundu have a trio of flutists in attendance. Whistles are made of wood, bone, or ivory, and it is usual for a rain-maker to use an instrument of this kind while performing his ritual dance. A nose-flute is used by the Bambala of the southwest Congo region, but this form of instrument is quite unusual in Africa.

STRINGED INSTRUMENTS

Stringed instruments are numerous, and among these the simplest and most widely distributed are musical bows (Fig. 77, *f, g*). The Ovimbundu call such an instrument *ombumbumba*, but it has many

local names among Negro tribes. The form of the musical bow which is common in Angola is that of a simple bow such as hunters use, but smaller. A bridge of wood keeps the string taut, and a gourd which is fastened to the string is pressed intermittently to the body of the player to give resonance. One end of the bow is placed against the performer's teeth while the other end is held by his right hand. With his left hand he uses a short stick to tap the bowstring. The *goura*, which is used principally by Bushmen, is superficially like a musical bow, but it is essentially different in the operating principle. The string of a *goura* is made to vibrate, not by tapping, but by oscillation of a quill attached to the end of the bow which the player puts into his open mouth (H. Balfour, 1899; 1902, pp. 156-176).

Stringed instruments are common in north, west, and east Africa. The *rababa* is a form known wherever Arab influence has penetrated. Along north Africa and in the west a common type of instrument is strung with horsehair and played with a small bow having a compound string of the same material. Usually a stringed instrument consists of a gourd covered with a taut piece of lizard skin or hide from a mammal. To the gourd a long straight stick is attached, and from the end of the stick to the remote side of the gourd are fastened strings, varying in number from one to seven.

The most important friction instrument is the friction drum, but the word "drum" is a misnomer since no blow is given to the membrane. A performer I observed at Ngalangi, east-central Angola, sat astride a friction drum four feet long and eighteen inches in diameter; the instrument had been hollowed from a single log, which was then covered with a hide at one end and left open at the other. He placed his moistened hand through a hole on the upper surface of the drum, and grasped a long cane rod which was made fast to the membrane. When he rubbed his hand along the rod the vibration was communicated to the membrane of the drum. Rubbing a grooved board, which is fastened to a hollow gourd, is a common method of producing sound by friction (Fig. 77, c). H. Balfour (1907) has described types of African friction drums and their distribution.

Bull-roarers should be included among frictional instruments because the sound is produced by whirling a slat of wood which is attached to a string. The performer holds the string and whirls the wood round his head, so producing a loud buzzing sound. The Ovimbundu, like many tribes at the present day, use the bull-roarer

as a plaything; this, however, is a degradation of function, for the instrument was at one time used in sacred ceremonies of tribal initiation. Among the Yoruba of Nigeria at the present day bull-roarers are secretly used in the bush, and the noise produced is said to be the voice of a spirit named Oro. This instrument has a wide distribution outside Africa, chiefly in connection with initiation ceremonies for boys. A comparative study of many different forms is made in "Tribal Dancing and Social Development" (Hambly, 1926b).

An instrument used over the greater part of Negro Africa and called by the Ovimbundu *ocisanji* is played usually by men. Since the thin iron or stiff rattan keys are stroked by the thumbs of the performer the instrument cannot be included in any of the categories mentioned. The contrivance consists of a wooden board or shallow box of rectangular form, often well carved, and to this two wooden bridges are attached. Through these bridges are fastened thin metal or rattan keys, varying from eight to nineteen in number, and arranged in one, two, or three tiers. The forms of the instrument show many local types. The lengths of the keys can be altered by pushing them to and fro in the bridges, and the pitch of the notes can be further changed by adding small balls of wax to the under side of the keys. Sometimes a performer holds the instrument in a large gourd to amplify the sound (Fig. 77, e).

MUSICAL TECHNIQUE

Although the social, religious, and educational functions of music are of primary importance, the technique is receiving increased attention, and will continue to do so with the improvement of apparatus for recording musical compositions. The phonograph was invented by Edison in 1877, and one of its earliest uses in ethnological work was in 1891, when W. Fewkes, chief of the Bureau of American Ethnology, recorded songs among the Zuni Indians. Light, portable recorders are made for field work; these operate by a coiled spring, but, if conditions permit, an instrument may be attached to an electric light socket, or worked by attachment to the battery of an automobile. A recent type of recorder is worked by dry storage batteries.

An instructive introduction to the study of African music has been written by E. M. von Hornbostel (1928, 1933), who states that African and modern European music are constructed on entirely different principles; therefore they cannot be fused into one system. Since the year A.D. 1600 European music has been constructed

according to laws of harmony, while African music is based on melody. The music of Islamic north Africa, though showing traces of Negro influence, belongs to the Arabic-Persian civilization. Like Negro music, Arabic music is not composed, since performers make their compositions without theoretical knowledge. Instrumentalists are unable to write the scores of their pieces, and pupils are taught by ear. The use of the enharmonic scale, having intervals less than a semitone, and the general technique and history of Arabic music have been discussed by L. Williams (1934) and B. Schiffe (1936).

A parallel exists between Arabic architecture and Arabic music, and the former has a symmetry and mathematical form which finds its counterpart in musical rhythms. Each Arabic name has a definite pattern and rhythm of beats, and, as in Hindu music, the occult significance of compositions is essential to the technique. Hindu music has a mode for each hour of the day, for each season, for harmony with the planets, and with the signs of the zodiac. The music also possesses male and female modes and rhythms (Fyzee, 1914 and Popley, 1921).

In Africa definite and fundamental distinctions occur among the music of Arabs, Bantu Negroes, Sudanic Negroes, and Hamites, but these differences, together with the interrelationships of characteristic types of African music, have not as yet been precisely determined. African Negro music has features that can be regarded as typical. One of these traits is antiphony, which is an alternate singing of solo and chorus, and, in addition to this, part-singing and complex rhythms are essential elements.

The musical principles involved in the construction and playing of what are apparently simple one-stringed devices have been illustrated by R. Kirby (1931, pp. 89-109) in his description of the *gora* and its allied forms, and in his examination of the "... Harmonics of Stretched Strings." Kirby recognizes ten types of stringed instruments used by natives of the Union of South Africa, and these he classifies according to the relative complexities of the sounds produced. He discusses intervals used, musical scales, and other technicalities. See H. Tracey (1935) on tuning African instruments.

A great task awaits the student of African music, not only in recording in the field, but in making a comparative study of existing data. For this work very few are qualified by ethnological training, combined with a natural aptitude for music and a command of technique. Prominent among musical studies are the following references which have not been mentioned in the text.

B. Ankermann (1902) published a catalogue of musical instruments, but a more useful one, especially for comparative study of African and Asiatic forms, is that of the Metropolitan Museum of Art, New York. The three volumes of this catalogue describe the Crosby Brown Collection. S. Chauvet (1929) wrote a general work on Negro music, and M. Cuney-Hare (1936) has a volume describing the influence of African music in America. F. Eboué's (1935) article describes musical tones of percussive instruments. The social and psychological factors of dancing have been discussed by E. E. Evans-Pritchard (1928b). G. Herzog has published a paper describing the recording of primitive music in Africa and America. H. Husmann (1936) published an article dealing with the *marimba* and the *sansa*. Von Kunst's (1936) article points out resemblances between the music and instruments of Indonesia, Java, and central Africa. C. S. Myers (1907) contributed a paper on "The Ethnological Study of Music." The music of Tanganyika has been recorded by P. H. Molitor (1913), and R. A. C. Oliver (1932) has published his research on the "Musical Talent of Natives of East Africa." F. Pulestone (1930) has published a work on African drums. R. Skene's (1917) article is useful in the study of Arab influences on the dances and ceremonies of east Africa. A. N. Tucker (1933) described "Children's Games and Songs in the Southern Sudan." An article on the tuning of African musical instruments was published by H. Tracey (1935). A bibliography by D. H. Varley (1936a) gives many references to African music. A comprehensive study of African drums (H. Wieschhoff, 1933), and their cultural relationship to forms outside of Africa should be used in conjunction with the contribution by Von Kunst (1936).

INITIATION INTO THE TRIBE

MAIN FACTORS OF INITIATION

Consideration so far has been given to education which is chiefly of an informal kind. The educational agencies described are family life, youthful companionships, tradition, folklore, games, imitative play, music, and dancing. These factors operate from infancy to initiation, when a sudden break is made with juvenile life, and special ceremonies are held for making a transfer to adult status. The phrase *rites de passage*, used first by A. van Gennep (1909), is an apt description of the transitional nature of the initiation rites recorded below.

The initiation ceremonies of Negro tribes achieve their purpose of education and incorporation by definite social, religious, and

economic training. Moreover, certain corporal operations and processes are commonly employed either at the initiation rites or in the years preceding them.

Social training is given by enforcing the fact that the novices are a united body with a common purpose, and in some tribes recognition of each initiation class as a definite group persists for life. This is especially so among Nilotic Negroes and Half-Hamites. Knowledge of tribal law, sex training, and obedience to elders are also important elements in the social training afforded by initiation.

A religious element is in some instances distinctly seen in sacrifices to ancestors, in the assumption that masked officers of the initiation are visitors from the dead, and in the supposed death of the novices, who are reborn and receive new names and an adult standing in the tribe. Lustration by water or fire is a means of emphasizing this rebirth.

In some camps handicrafts are taught to boys, and girls receive instruction in domestic work. A common feature of camp training is the demand that each novice shall be self-supporting. He must live frugally, and he may be required to trap and collect all his own food. In this way the economic aspect of tribal life is recognized.

Frequently initiation depends on arrival at puberty, and the rites are often associated with circumcision of boys, and for girls clitoridectomy, defloration, or some more drastic operation on the sex organs. Scarification of the body, mutilation of the teeth, boring of the ears, and the fattening of girls are operations commonly associated with puberty rites, though some tribes perform these ritual acts during the years preceding puberty.

Initiation rites do not invariably coincide with puberty. In some regions, for example, among the Vachokwe of eastern Angola, initiation ceremonies are held once in four years: therefore, the ages of the novices in one camp have a considerable range. The discrepancy in age and physical development is shown in the illustration of boys in camp at Cangamba (Fig. 78, *a*). Frequently the initiation of girls is begun soon after their first menstrual period.

The following account of initiation rites illustrates the main principles and procedures of such ceremonies among Bantu, Sudanic, and Nilotic Negroes. Details vary considerably, and the age-grade ceremonies adopted by Nilotes and Half-Hamites have factors which do not enter into the rites of Bantu and Sudanic Negroes. Yet tribal initiation is based on certain fundamental principles and

procedures, and, in comparison with these, local variations are relatively unimportant.

The main function of initiation as a social rebirth is illustrated by an account of a rite performed by the Akikuyu, a tribe of the northeastern Bantu. The importance of the rite is shown by the fact that an M'kikuyu who has not been "born again" loses rights of inheritance and is debarred from taking part in any religious ceremony (W. S. and K. Routledge, London, 1910, p. 151).

The ritual of rebirth is performed for both boys and girls, usually when they are about ten years of age. If the uterine mother is dead, another woman acts as substitute. The ceremony is a recapitulation of the procedure of childbirth; therefore, only women are allowed to be present. The child is dressed in the skin and the stomach of an animal which has been killed for the purpose, and the mother, who acts as if in labor, sits on the floor of the hut with the child between her knees.

Gut from the sacrificed animal is passed round the mother and the child. The mother groans, the child gives a cry, and a female attendant cuts the gut. Assistants wash the child, who that night sleeps in the same hut as the mother. This custom is not general among Negroes, but it is important as a particular instance of the widespread emphasis which is placed on initiatory rites as a social rebirth.

TYPICAL BANTU INITIATION

Most of the fundamental points involved in initiation can be illustrated from personal observations among the Vachokwe of eastern Angola.

At the village of Ngongo in east-central Angola a mixture of tribes—Vachokwe, Ovimbundu, Vanyemba, and Vangangella—hold initiation ceremonies once in four years. When a number of boys are ready for circumcision, and this is judged from their genital development, they go together to older men to ask for an initiation ceremony. Their request is passed to the village headman, and a large enclosure of boughs is constructed in the adjacent bush. The father of each boy has to arrange that a guardian accompanies his son to camp, but in some instances one guardian is appointed for two or three of the novices.

Each boy takes with him a chicken, which is killed at the ceremony for changing the names of the novices after the rite of circumcision has been performed. The new names are announced in the

village from which the boys came. Circumcision is a test of endurance, and disgrace attaches to any signs of pain; therefore, to stifle the cries so that they will not be heard outside the enclosure, a band of male drummers is engaged to play drums during the operation.

The period spent in seclusion is variable at different centers and at different times, but the ceremonies are usually continued during a period varying from three to six months. The rule is that camp must not be disbanded until healing is complete; therefore, one septic case can delay the final ceremonies for weeks or months. Moreover, all boys must be proficient in the dances which are performed when they leave camp, and those novices who are slow to learn delay the final rites.

One custom of Ngongo differs from those followed at other centers of eastern Angola. Each boy has to take from the fire a burning stick, which he holds in his hand while running between two lines of men who beat him. If he drops the brand he has to start his course once more. Should a boy die during the rites a hole is bored in his food platter, which is returned to his mother as an indication that he will not require more food. Every guardian has a stick to represent each of the boys under his care. These sticks are sent to the respective mothers at the conclusion of the ceremonies, but if a boy has died bark is cut from both ends of the stick which represents him.

On the day of leaving camp the boys pass between the legs of a man and a woman who stand on the bank of a river. In this water the boys bathe by taking three dips, between which they stand on the bank to dry. At the conclusion of the ceremony the novices are warned that they will die if they disclose information to women or to uncircumcised boys. A feast and beer-drinking is given to welcome the novices home, but for two months they wear similar skirts of bark, learn dances from an older initiate, and must move about the village as a company.

Near the village of Katoko procedure is variable with regard to the food supplied to novices. Sometimes parents are allowed to place food in bowls on the bank of a stream, whence it is brought to camp by the boys. Before eating, the boys have to give profuse thanks to their guardians, and in some camps a boy depends entirely on the food he can catch or collect.

Boys who have been circumcised are not allowed to wear clothes; neither may they have a fire, although the nights are cold in

comparison with daytime temperatures. During isolation, costumes are made for use at the final dances. The garments consist of tightly fitting, coarse netting, masks, and fiber skirts. No female is allowed near the enclosure, and women are supposed to be totally ignorant of the nature of the rites. Females and uninitiated boys believe that the masked novices (Fig. 78, *a*) who appear after seclusion are *ovinganji* (great judges) or spirits of the dead who have come to life. Initiated boys who have returned to their village have to keep together as a company during a period of three months, and they are forbidden to speak to uncircumcised boys in this period.

At Cangamba, the chief center of the Vachokwe tribe, the novices' enclosure was constructed of poles and boughs. These formed a high fence whose narrow entrance was guarded by an adult male. In the arena were several small wicker structures in which the boys lie for two weeks after circumcision (Fig. 78, *b*). The ordinary dress during seclusion is a fiber skirt, but masks of barkcloth and mesh suits of fiber are made for use at a final ceremony. Within the compound were several drums, and to the accompaniment of these the novices were taught the dances that are performed when the seclusion is ended. Masks I purchased were carefully wrapped in barkcloth, with the request that they might not be seen by women.

During a final ceremony which lasted for twelve hours, the novices, who were masked and clad in netting suits, performed ceremonial dances to the accompaniment of drums. Stilt-walkers and a masked medicine-man played a prominent part in this ceremony. Women and children pretended to be afraid of the masked figures who pursued them, and the boys strutted about arrogantly to emphasize their manhood. One boy had a large artificial penis attached to his costume.

All these factors are typical of initiation rites among Negro tribes, and everywhere the procedure emphasizes a launching out into adult status with new privileges and obligations. The boy enters upon a period of seclusion, hardship, and instruction. He dies in a social and psychological sense but is reborn as an adult member of the village group from which he came.

At Ngongo among the Vanyemba tribe initiation rites for girls are observed. In July, 1929, the segregation camp was situated in thick bush a mile from the village, and no males or uninitiated girls were allowed to approach the enclosure. Three elderly women who were in charge of the girls left their retreat and performed ceremonial dances. The photograph (Fig. 79, *b*) shows the decoration of these



a



b

FIG. 78. Initiation rites. *a*. Newly circumcised boys, Vachokwe, Cangamba, Angola. *b*. Vachokwe boys confined after circumcision, Cangamba, Angola.

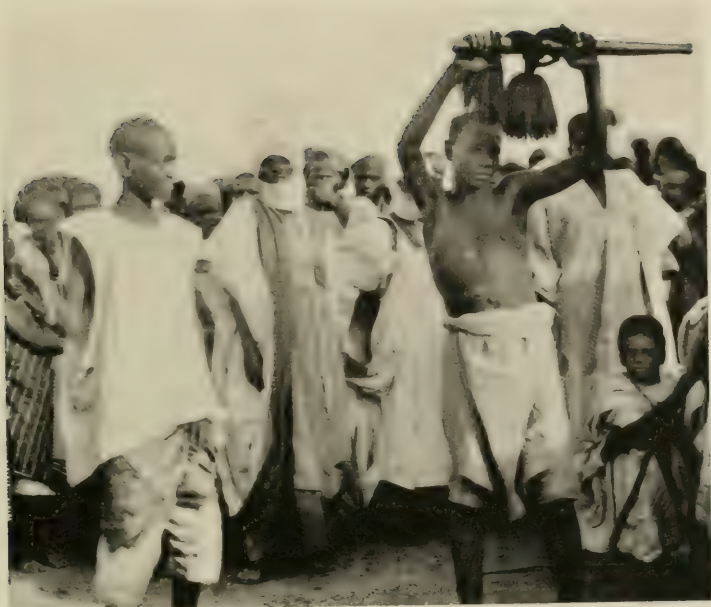
guardians, who were naked except for their loin cloths. Their faces and bodies were thickly smeared with alternate bands of red and white clay. The women emerged from the bush, and, moving backward with short steps, presently arrived before an orchestra of male drummers and women who clapped their hands in rhythm. The dance was no more than a slow shuffling movement performed with heads and bodies bent.

The girls are kept in seclusion for a month, but they do not suffer the privation and harsh treatment which are given to boys. The instruction given to the novices is of a sexual kind, and defloration with a lubricated corn cob is said to take place.

In his article "Secret Societies of Lubaland," W. F. P. Burton (1930) has given information relating to the initiation of girls. Secretly, the girls are sent in groups to a hidden meeting place in the forest, one or two years before their first menstruation is due. During isolation there is enlargement of the vagina and labia minora, an act which is supposed to be a preparation for motherhood, and a general belief exists that a girl who is not treated in this way will not make a successful marriage. The novices are told that barrenness will result from divulging the secrets of their initiation.

Following the first rites in the bush a probationary period of one year is observed, and during this time several restrictions are imposed. The girl is regarded as a person who is susceptible to baneful influences, and to avoid these she is forbidden to draw water, to wash herself, or to perform any manual work. At the end of her probation the novice eats a ceremonial meal consisting of a chicken. When she eats the heart of the bird she is told that she is receiving a woman's heart; this is the most important of the symbolic acts emphasizing transition from childhood to womanhood. When eating the remainder of the chicken the novice has to be careful not to break the bones, since this would cause her child to be born with fractures. At the end of her probationary year the novice is said to have "come into purification." She is smeared with white pigment at the conclusion of a ceremony (*butanda*) and is then considered marriageable.

A detailed account of tribal initiation for girls of the Valenge tribe, who are southeastern Bantu of Portuguese East Africa, has been given by E. D. Earchy (1933). The rites, which were observed up to a few years ago, began with the first menstrual period, and to hasten this a medicine-man could give a potion containing the pulverized bones of a tortoise. Conception before marriage could be avoided by a ceremonial act.



a



b

FIG. 79. Initiation ceremonies. *a*. Whipping ceremony, Fulani tribe, Shendam, Nigeria. *b*. Women in charge of novices, Vanyemba, Ngongo, Angola.

The father of the girl paid a call to the chief to inform him that he had a daughter ready for the initiation school, and to pay a fee. An additional sum had to be paid to the mistress of the rites, who was called *nyambutsi*. This person held office through hereditary right, which persisted in the female line for many generations. The *nyambutsi* offered sacrifice to ancestral spirits and asked their help during the initiation ceremonies. During preparation for the rites the candidates were instructed by their mothers, aided by the *nyambutsi*, and the knowledge imparted related to domestic work, feminine hygiene, taboos connected with sacred things, and the symbolism of objects used during the initiation ceremony.

On the morning of the first day of the rites, the chief offered sacrifice and prayer to his ancestors, pleading that candidates might stand the tests. A diviner sought for omens to foretell the future of the novices. A rite was performed to consecrate the symbols, which included a horn, a drum, and carved dolls, male and female. These regalia are regarded as media by which ancestral spirits keep in touch with the initiatory ceremonies. The principal wife of the chief then conducted the girls to the bush, where their initiation was to take place.

Nyambutsi began the ceremony with a nude dance in which she was followed by the chaperons of the novices; the rhythms were accompanied by songs and beating of the sacred drum. During this time the candidates had to cry with fright; they were then deflorated with the horn, which was symbolic of the male organ. Every day during the month of seclusion the novices danced, learned a secret language, and were required to avoid certain foods. Instruction in sexual matters was given with the aid of the male and female dolls, which had a religious significance because they were vehicles for the ancestral spirits.

At the end of the month ablutions washed away impurities, a sacramental meal was taken, and the girls returned to their homes. But return to home life was the occasion for further ceremonial, and each novice had to have a messenger to make contacts with those who were not associated with the initiation school. Each novice had to observe a list of seventeen taboos. The intended husbands visited their respective partners, remained a night, and departed after a ceremonial abluion. Each girl finally received a new name.

SUDANIC NEGRO INITIATION

The Golah, Negroes of Liberia, hold initiation schools for both boys and girls, and according to J. M. Ceston (1911, pp. 729-754)

the rites are for "tribal initiation and preparation for life." On order of the chief the bush is cleared and rectangular huts are built; two houses are provided for novices, one for their attendants, and one for the bush devil in charge of the ceremonies. The girls are taught that this masked person is not human, but in reality she is the wife of a chief. Signs are set up, warning people not to use paths leading from the village to the bush school. The operation of scarification is carried out before the novices enter the initiation school, and in the school clitoridectomy is performed by the bush devil, who uses either a razor or a piece of glass. Instruction is given in songs and dances, cooking, making fishing nets of fiber, and in matters relating to sex. The final ceremony includes ablutions, and the girls are warned that they must hold no intercourse with the uninitiated; neither may they speak of their experiences in the bush.

In the *gree-gree* school for boys the novices receive tribal scarification and new names. If they have not previously been circumcised, the operation is performed in the bush. They are taught handicrafts, songs, and dances, and instruction is given in sexual matters. The tribal marks are made by a male bush devil in charge of the ceremonies. This man applies a healing salve to the cuts and makes the boys lie on their mats without taking any exercise for one or two weeks. In some *gree-gree* schools importance is attached to acrobatic exercises and juggling. A student should here refer to chapter IV of this section. Under the heading "Social Controls," a description is given of secret societies. Membership begins with juvenile initiation at puberty and persists through life, often in association with age-grades.

R. S. Rattray (1923, pp. 69-76) reports that in Ashanti he was not able to discover any initiatory rites for adolescent boys, but puberty rites for girls are performed at the time of first menstruation. At the first appearance of the menses, the mother of the girl enters the village beating a hoe with a stone and announcing the fact publicly to other women who sing songs. The mother of the menstruating girl spills a little wine on the ground, meanwhile addressing the supreme sky god and the earth goddess, "O mother who dwells in the land of ghosts, do not come and take her away." All hair is shaved from the body of the nubile girl, who sits in the street under an umbrella, with her mother and other clanswomen in attendance. Here she remains from dawn to sunset, receiving congratulations from her friends.

Girls wave flags and sing, "She has done it, our sister has done it. We congratulate her on the doing of it." Then follows ceremonial

bathing in the river accompanied by songs addressed to the spirit of the water, and after ablution the girl's body is marked with white clay. This rite celebrating arrival at puberty differs from other instances quoted, since the novices are not segregated in the bush, but the method of emphasizing a transition is the same in principle. In Ashanti a special feature of the puberty rite is the belief that up to the nubile period a child belongs partly to the spirit world. Adolescence is a transition from one world to another, but at puberty the "ghost child" becomes a man or a woman with the social status of a fully grown mortal. R. S. Rattray (1932a, vol. 1, p. 165) states that among some tribes of the Ashanti hinterland the operation of incision of the clitoris is a necessary prelude to marriage.

An article by L. W. G. Malcolm (1925b, No. 69) describes the fattening of betrothed girls of the Efik tribe at Old Calabar. He states that the duration of the process is an indication of social standing, and only the free-born have the means to pay for this preparation for marriage. No well-born man would marry a girl who had not been secluded and fattened. The girl is dressed in bright ceremonial clothing and ornaments, and during her seclusion she is liberally fed on pounded yams and palm oil, while all exertion and perspiration are prevented. The face and body of the girl are washed, and she is smeared with clay. White cloths are tied round her wrists, neck, and ankles as charms to prevent evil spirits from retarding the fattening process. Near the end of the seclusion clitoridectomy is performed by the girl's mother. The marriageable girl then assumes a special dress and coiffure, and the rites are concluded by a religious ceremony at the shrine of the ancestors in order to ensure marital faithfulness. P. A. Talbot (1926, vol. 2, p. 394 and Table XIV) gives a statement of periods spent in the fattening house by girls of the Ekoi and other tribes of southeast Nigeria.

NILOTIC NEGRO INITIATION

Among Nilotic Negroes and Half-Hamites initiation ceremonies have, in many tribes, a special procedure and sequence. In the region of the upper Nile, among the Galla of Abyssinia, and in the Half-Hamitic Masai and Nandi tribes, initiation is periodical. Boys and, in some tribes, girls are subject to age-grading, which requires that initiatory rites shall be performed at the end of every seven-year period. This age-grading will be more fully described in this section under the heading "Social Controls," because age-grading is the basis of military organization and government. But, despite peculiar

features of the Hamitic system of initiation, certain features which are comparable to traits of the Bantu Negro rites can be demonstrated.

In the Bari tribe, who are Nilotic Negroes, girls pass through five principal stages of initiation, each of which includes a physical operation. Girls of fifteen years of age are cicatrized on both sides of the lumbar region, and two years later tribal cicatrices are cut on the abdomen. A year is then allowed to elapse before cicatrices are cut on the back, from the loins to the shoulders. At nineteen years of age the lower incisor teeth and the lower canines are extracted; this ceremony gives marriageable status, and failure to submit to the rite is thought to prevent fecundity. Novices have to observe taboos, and failure to do so is said to retard healing of the gums. The girls must not shave their heads, may not go about alone, nor draw water from the river. The period of seclusion is spent in singing special initiation songs, learning dances, bathing, and making charms to avert the evil eye or other calamity. Complete healing of the gums is celebrated by a dance, a feast, and drinking of beer.

One or two years after extraction of the teeth, the final scarification is given in the form of a triple row of dots on each side of the breast bone. Following three months of seclusion the girls are allowed to go to the homes of their respective husbands. For each age-grade a name is given, but the same name is never found twice in the same village; the same age-grade names, however, are used in different villages (L. M. Spagnolo, 1932, pp. 393-403).

P. Crazzolaro (1932a, pp. 28-40) reports that the operation of cicatrizing the foreheads of Nuer boys marks entrance to manhood. The rite, which may last from three months to a year, takes place at intervals of four years. The decision to hold such a ceremony is made by a village headman, who also inaugurates the rites. A period of seclusion, which lasts for several months after the operation, is closed by a dancing ceremony. The boys become men and members of a new age-class, with certain definite obligations and privileges in relation to their tribe and age-group.

The data adduced up to the present give a general background of Negro beliefs and rites affecting conception, pregnancy, delivery, twins, and other phenomena of childbirth. The fundamentals of education have been considered by examining the nature of play, music, dancing, and rites of formal initiation. The procedure of founding a family has been observed, the children have taken their place in the tribe, and now the kinship relations of family members should be considered.

Supplementary reading on the subject of initiation will be found in the following books and articles: R. Andree (1880-82), S. Bagge (1904; Masai circumcision), H. von Baumann (1932; Vachokwe), G. Beyer (1926; northwest Transvaal), J. T. Brown (1921; Bechuana), G. St. J. O. Browne (1915; northeast Africa), F. Bugeau (1911; Kikuyu), G. Chéron (1933; Malinke of west Africa), P. Crazzolaro (1932a; Nuer of Upper Nile), E. D. Earthy (1933; Valenge, Portuguese East Africa), L. Frobenius (1898; masks), L. H. Gray (1913b; general); W. D. Hambly (1935b; Angola), C. P. Holdredge and K. Young (1927; Vachokwe), A. E. Jensen (1933; a comprehensive general work on initiation), N. Jones (1921, No. 92; Matabele), H. A. Junod (1929; northern Transvaal), C. Le Coeur (1935; Tibesti region), K. G. Lindblom (1927b; ceremonial use of stilts), J. Maes (1924; Congo masks and circumcision ceremonies), G. Róheim (1929; a psychological study), M. Schulien (1923-24; Portuguese East Africa), P. A. Schweiger (1914; Ama Xosa and Ama Fingo), H. S. Stannus (1913b; Yao of Nyasaland), H. Welcker (1877-78; circumcision in ancient Egypt), C. A. Wheelright (1905; South Africa), W. C. Willoughby (1909; Bechuana tribe), M. Zaborowski (1894; general, circumcision of boys and girls).

III. SOCIAL ORGANIZATION

KINSHIP TERMS

(Tables 10, 11)

A study of social organization is intended to show the relationship of an individual to his family, village, clan, and tribe. To each of these structural units members owe an allegiance which involves both privileges and obligations. These reciprocal duties form the subject of the present chapter.

A. I. Richards (1932) has supported the theory that human relationships within the family, village, clan, and tribe are primarily determined by nutritional needs. Within the family a long lactation results in a growth of sentiments around the mother. But, after weaning, a child begins to build up new attitudes towards brothers, sisters, parents, and relatives on both the maternal and paternal sides of the family. Concurrently there is the establishment of relationships between an individual and all the social groups which unitedly form a system of government.

Family relationships result from birth and marriage, both of which factors determine the nature of the kinship system. Therefore, a study of kinship terms and family relationships provides a logical starting point for investigating the mechanism of social organization and government.

The following list of kinship terms used by Ngonga, a male of the Ovimbundu tribe, explains the nature of the scheme of relationships commonly used among Bantu and some Sudanic Negroes. Elements of a similar classificatory system of relations are found among some Nilotic Negroes and Half-Hamites.

Kinship Terms.—The numbers on the left of the kinship terms distinguish those terms in Tables 10 and 11. Roman numerals on the right of the tables denote the generation. Numbers on the left of the sign (=) refer to males, those on the right to females.

- (1) *Ukai wange* is my wife; the reciprocal is *veyange*, my husband.
- (2) *Mume, manja, manjange* means younger brother.
- (3) *Kota, huva*, older brother.
- (4) *Mbuale*, sister, is the direct form of address; *mukai wange* is used if speaking of a sister.
- (5) *Nawa* is the term used for all in-laws of the speaker's own generation.
- (6) *Ndatembo* is the word used to designate all in-laws of an ascending or descending generation.
- (7) *Tate* is the word used for my father, my father's brother, and my mother's sister's husband. The reciprocal term is *omolange*, my child.

- (8) *Mai* means mother. The word is used to designate my uterine mother, my mother's sister, and my father's brother's wife.
- (9) *Aphai*, my father's sister.
- (10) *Omolange*, child.
- (11) *Ocimumba*, children of spouse's family.
- (12) *Manu*, mother's brother, the most important of the relatives.
- (13) *Kulu*, an old person in the grandparents' generation. *Sekulu* and *kukululu* are terms used to designate male grandparents.
- (14) *Maikulu* is the term for female grandparents.
- (15) *Onekulu* designates a grandchild of either sex.
- (16) *Upalume* are the father's sister's children and the mother's brother's children. Marriage with a mother's brother's child is enjoined, marriage with a father's sister's child is permitted but not favored. Marriage with a mother's sister's child or a father's brother's child is strictly forbidden.
- (17) *Cikuhume* is the term applied to a father's sister's husband.

The foregoing list of kinship terms indicates the general nature of the scheme of relationships which governs family life among the Ovimbundu. The attitudes existing among certain relatives demand the recognition of definite obligations and privileges, which will be more fully described under the headings of "Family" and "Law."

The Ba-ila of Northern Rhodesia have a well-developed and functioning system of classificatory relationships agreeing in principle but differing in some respects from that of the Ovimbundu. The Umbundu use of different terms for direct and indirect speech obtains also with the Ba-ila, who, in common with the Ovimbundu, have terms of kinship that vary with the relative ages of the speaker and the person addressed. A Ba-ila youth when speaking to his older brother calls him *mukando wangu*, "my great one," but if addressing a younger brother he says *mwanichangu*, "my junior."

Of the four possible cousin marriages the Ba-ila favor only one, namely, marriage with a father's sister's daughter. Marriage with a mother's brother's daughter is not permitted, but among the Ovimbundu this is the enjoined form of union. A man of the Ba-ila calls his father and his father's brothers *tata*, and all the sisters of his father and of his mother are *bama*, meaning "mother." As among the Ovimbundu, the mother's brother is of primary importance in family life because of the reciprocal obligations that exist between him and his sister's children. The Ba-ila use the word *achisha* for direct address of a mother's brother, and when speaking of him they employ the term *uachisha* (E. W. Smith and A. M. Dale, 1920, chap. 12).

After giving a list of kinship terms used by the Ashanti, R. S. Rattray (1927a, p. 317) explains the terminology by showing to what

individuals a name is applied, why it is so used, and what marriage laws are involved in this classificatory system of relationships. He refers to a law of cross-cousin marriage whereby a man was enjoined to marry his father's sister's daughter or his mother's brother's daughter. Breach of marriage prohibitions was punished with a death penalty for incest, because marriage taboos were arranged to prevent a person from marrying his or her own *abusua* or *ntoro*, as the matrilineal and patrilineal divisions were respectively called.

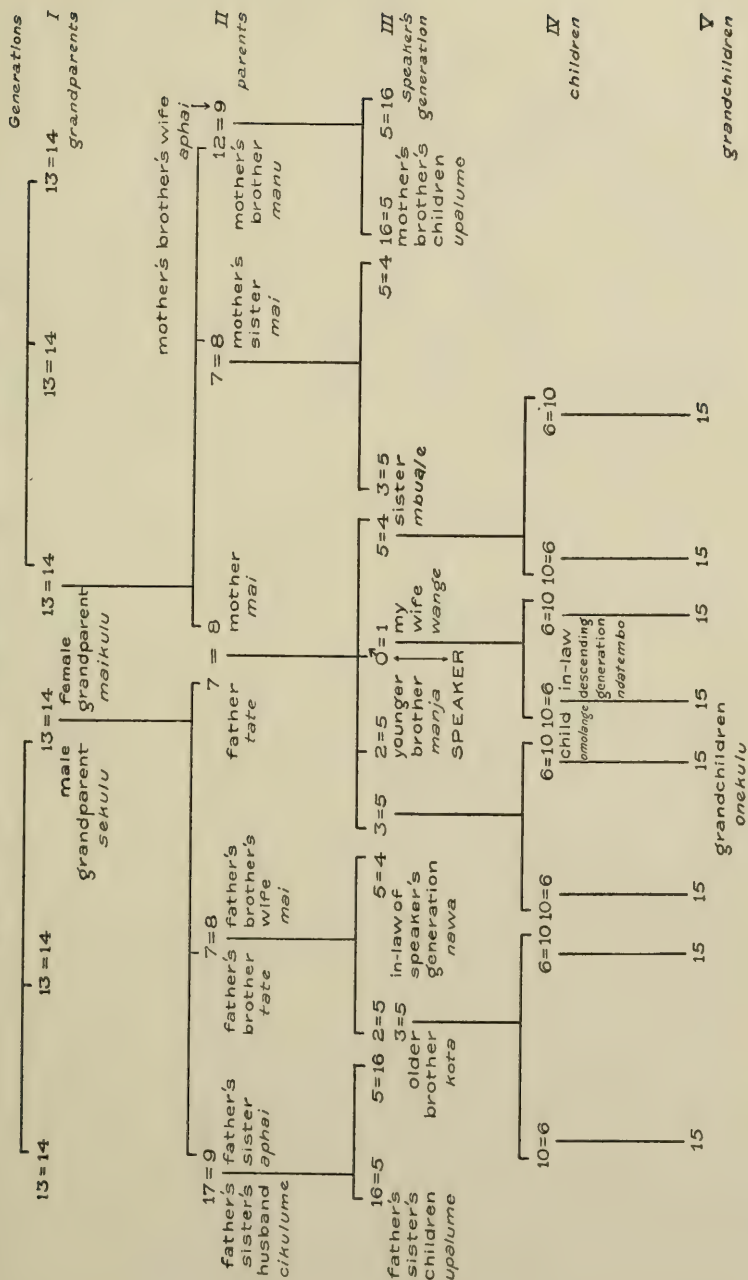
There is evidence to show that a maternal uncle is powerful in Ashanti society, which is matriarchal. This relative orders his children to marry his nieces and nephews (sister's children). If his sister's daughter marries his son, then their offspring will possess the maternal uncle's spirit (*ntoro*), and this fact would make it possible to name the child after himself or an ancestor. The maternal uncle uses his authority to arrange a marriage which facilitates reincarnation of a *ntoro* who had been waiting to be born in its own *ntoro* lineage. Ancestor worship and social organization are complementary and mutually dependent in their functioning.

The following explanation indicates a logical connection between Ashanti ideas of conception, reincarnation, totemism, and cross-cousin marriage. *Ntoro*, which can be translated by the word "spirit," is transmitted to offspring by males only, though *ntoro* is present in every male and female. *Abusua*, the "clan" or "blood," can be transmitted by females only, and under no circumstances can a male transmit the *abusua* which he derived from his mother. "No Ashanti can have a drop of the male parent's blood in his or her veins."

The physiological concept postulates that each man and woman has two distinct elements, *abusua* (blood or clan) and *ntoro* (spirit). The *abusua*, which is synonymous with *mogya* (blood), is inherited from the mother only, and clan descent is therefore traced through females only. This maternal element, which is transmitted by and to females only, decides succession to office, the tracing of descent, and the inheritance of property.

At death an *abusua* becomes a *saman* or ghost which lives in the world of spirits, awaiting reincarnation through some woman of its own blood and clan. The *ntoro* does not accompany the *saman* to the spirit world but becomes a spirit called *obosom* and is reincarnated through any male of the *ntoro* to which it once belonged (L. H. D. Buxton and R. S. Rattray, 1924, p. 83).

TABLE 11
OVIMBUNDU, DIRECT LINE OF RELATIONSHIP OF SPEAKER'S WIFE



According to C. G. and B. Z. Seligman (1932, pp. 21-58) present data relating to kinship systems among Nilotic tribes are insufficient for a complete survey, but two types of organization are evident. One system of kinship terminology is distinctly classificatory, the dominant feature being the classification of many relatives under one term. This is best seen among the Nuba and the Ingassana, by whom all cousins, both parallel and cross-cousins, are classed as brothers and sisters. The father's brother is addressed as father, and the mother's sister as mother. The system of the Nilotes presents a marked contrast, since a prominent feature is the accurate description of all relatives. Such a system may conveniently be called descriptive, and the result of such a scheme is to distinguish with great precision between each kind of cousin and nephew. Certain customs among the Nilotic Negroes—Nuer, Shilluk, and Dinka—seem closely correlated with the descriptive system.

In considering kinship systems of African Negroes, the facts which are observed today require explanation along historical, psychological, and sociological lines. A comparison of the kinship systems of the Nandi, Masai (Half-Hamites), and Bathonga (southeastern Bantu), "shows some striking points of resemblance which can be explained by the prevalence among all three peoples of a particular type of marriage, apparently dependent on the payment of bride price." The system of the Nandi has certain classificatory features combined with traits of the descriptive system (B. Z. Seligman, 1917, No. 46).

The Semites had a classificatory system the operation of which has been modified by Mohammedan influence. Islamic law encourages marriage between ortho-cousins (children of two brothers or two sisters), an enjoined form of marriage which is the opposite of the cross-cousin system which prevails in many Negro tribes (B. Z. Seligman, vol. 3, 1924b, pp. 51-68, 261-279).

The blending of elements from kinship systems, which have presumably had different origins and histories, is demonstrated in F. R. Rodd's (1926, p. 150) report of social organization among the Tuareg (Northern Hamites). The Tuareg of Air reckon succession to office in the male line. But the mother's brother is important in family life, and descent is traced through females. Some aspects of the system are typical of Negroes who have a system of reckoning descent, succession, and inheritance through females; but other traits of the Tuareg organization are of the patriarchal type (see section II, chap. 4).

Like other cultural phenomena, types of social organization are subject to change, old traits disappear, and new ones are introduced. R. S. Rattray (1932a, vol. 1, p. 4) points out that among some tribes of the Northern Territories cross-cousin marriages, which, with rare exceptions, are no longer permitted by tribal custom, were once the common form of union. The nature of cultural processes in relation to kinship and marriage is illustrated by B. Z. Seligman's article "Marital Gerontocracy in Africa" (1924a, pp. 231-250). The thesis states that a system of marriage (gerontocracy) between persons separated by two generations has intimate association with cross-cousin marriage. Both types of marriage are the result of conflict between patrilineal and matrilineal principles. There is also a connection between marital gerontocracy and the reincarnation of spirits in the second generation.

SUMMARY AND READING

Despite the differences in kinship systems the data confirm the presence of certain fundamental similarities, especially in the classificatory systems of Bantu Negroes. The resemblances are true homologies which deeply affect both the structure and the function of social life in all its aspects. The structure of the classificatory system has been considered by quoting kinship terms and explaining their connotation. The functional aspect of the kinship system can now be shown in relation to the family and the clan.

Valuable data relating to kinship terms have been contributed by C. Bullock (1928, p. 235), C. M. Doke (1931c, pp. 199-202), E. D. Earthy (1933, pp. 11-18), E. E. Evans-Pritchard (1929, No. 148; 1932, No. 7), H. A. Junod (1912, vol. 1, p. 221), P. Kirchhoff (1932, pp. 184-191), A. L. Kroeber (1909), R. H. Lowie (1916a), J. Roscoe (1911, pp. 128-132), M. Sanderson (1923), C. G. and B. Z. Seligman, (numerous papers on kinship systems of Africa), H. A. Stayt (1931a, pp. 181-184), N. J. van Warmelo (1932), J. H. Weeks (1909, p. 439). Useful studies of kinship terms, attitudes, and behavior, and their social implications have been made by B. W. Aginsky (1935a and b), A. M. Hocart (1937), and F. Eggan (1937, pp. 41-58).

THE FAMILY

When studying the behavior pattern within a family, and the extension of this pattern to larger units such as the village and the clan, the following considerations are of primary importance. Analysis of social attitudes implies a psychological study of the reactions of individuals toward one another, and toward their kindred.

E. E. Evans-Pritchard defines an attitude as "an enduring, stereotyped, and socially-compelled behavior pattern, together with its concomitant psychological processes, both in the conscious (sentiments) and in the unconscious (complexes)." (Man, 1932, No. 7.) These attitudes may be characterized by reciprocal aid, deference, affection, fear, or avoidance. In addition to this aspect of the sociological problem, attention should be paid to the type of inheritance, reckoning descent, and succession to office which prevail in a given locality. The place of family residence, either with the kindred of the father or of the mother, is likewise important as a controlling factor of the social pattern. According to A. R. Radcliffe Brown (1924, pp. 542-555), a society may be called patriarchal when descent is patrilineal, marriage is patrilocal, and the authority over members of the family is in the hands of the father or his relatives. When descent is matrilineal, marriage is matrilocal, and the authority is exercised by the mother and her kindred, the society is matriarchal. Usually elements of both systems are present, that is to say, the system is bilateral. A complete and practical acquaintance with all these data would furnish an explanation of social phenomena which today are not thoroughly understood.

Before describing concrete examples of family, clan, and village organization, consideration should be given to certain hypotheses, without which the observed facts appear as unexplained vagaries of human conduct.

Historical explanations of conduct and attitudes have been based on the supposition that some of the social phenomena observed today are merely the result of a conflict between two systems, the patriarchal and the matriarchal. And, in accordance with historical hypotheses, the attitude of children toward their mother's brother, likewise his reciprocal treatment, involving both privileges and obligations, is the result of a matriarchal system which may have been to some extent obscured by a patriarchal system.

Modern hypotheses tend toward the refutation of historical explanations by a closer study of behavior and an endeavor to analyze the motives that determine conduct. E. E. Evans-Pritchard (1929, No. 148; 1932, No. 7) points out that a man's patterns of behavior toward his kindred are built up in the family organization into which he is born and in which he grows up. During early years of childhood, sentiments are formed in relation to a father, mother, brothers, and sisters. A boy's attitude toward his mother and her kindred, especially her brothers, may be determined by the attitude

of his father toward his mother. The patterns of behavior which a man observes toward his kindred, toward the female sex, and in relation to governing bodies, are the result of sentiments and attitudes that originated in the family, Grébert (1932, 1937).

The same opinion was previously expressed by A. R. Radcliffe Brown (1924, pp. 542-555), when he noted a tendency to extend to all the members of a group a certain type of behavior which had its origin in a relationship to one particular member of the group. A boy who receives care and indulgence from his mother expects similar treatment from the people of his mother's group, but to the paternal kindred a boy has feelings of deference, a tendency to obedience, and even a definite fear, if these traits have been present in his attitude toward his father. Using data from H. A. Junod's "The Life of a South African Tribe," A. R. Radcliffe Brown shows that these attitudes extend into religion. The maternal gods and the maternal ancestors are more tender and more popular than those on the father's side. With these hypotheses and general concepts in mind, a more concrete study of family life is desirable.

A restricted family of the Ovimbundu consists of a man, his wife (or wives), and their unmarried children. If the marriage is monogamous all members of the family inhabit one hut, but if the family is polygynous each wife has a hut where she lives with her children, does her cooking, and receives her husband on his periodical visits. Associated with this family there may be pawns who are in temporary residence to work off a debt, either for themselves or for a maternal uncle. In former days the family might include slaves who had been purchased or captured in warfare, and some adopted or inherited children may be present. These additions to a restricted family lead to the formation of a household.

Like many Bantu Negroes, the Ovimbundu are a patrilocal people; therefore, a male brings his bride to the village where his father lives, and usually close to the paternal home. Among the Ovimbundu an extended family, having patrilocal residence, includes married sons with their wives and dependent children, and also supplementary individuals such as those mentioned in the preceding paragraph. These persons who constitute the extended family occupy land which was allotted by the *sekulu* (village chief or headman) when the village was founded. When an Ovimbundu uses the words *epata lia tate* (or *aluse*), he means "family of my father," that is, the group of persons with whom he has blood relationship on his father's side. The words *epata lia mai* (or *oroluina*) indicate the

mother's blood relatives, and the interpretation is "family of my mother."

But, despite this clear recognition of the two families, commoners of the Ovimbundu remember little of their genealogy, perhaps no more than the grandparent class of relatives. Yet they remember names on both the father's and the mother's side; that is, they trace their descent bilaterally. In the families of chiefs and kings, descent is traced through both male and female ancestors, provided the father married a woman of the ruling house. This he is supposed to do when taking a first wife, but later he may marry commoners, and the offspring of these will trace descent through their father only, since their mother, who is a commoner, will know little of her genealogy.

Sentiments and attitudes within a polygynous family were indicated by the terms which Ngonga, my informant, used. A wife of Ngonga's father, other than his uterine mother, is called *mai yesepakai*; that is, "the mother who is jealous of my mother." *Mai* means "mother," and the remainder of the term is a derivative from the word *esepa*, meaning "woman's jealousy." There is a distinct word for man's jealousy, and in explaining this, Ngonga said, "When I see my wife look at another man, I have *ukuelume* (man's jealousy) in my heart." If on the death of Ngonga's father his mother married again, this male would be called by Ngonga "*tate yesepakai*" (the father who is jealous). A wife calls the children of her husband, who are not her own, *omala vesepakai*; that is, "the children who are jealous of the other children."

The most important of the attitudes relating to marriageability is revealed by consideration of the kinship terms for father and mother, and the words which are used to designate their children. Ngonga uses the term *mai*, mother, for his mother's sisters, and thinks of them as his mothers, while the word *tate* is used, not only for the father, but also for the father's brothers. Ngonga said, "My mother's sister's children, and my father's brother's children are my brothers and sisters. To marry one of them would make me *ocinyama*, that is, like an animal. People would say 'you have shamed the family.'" The terms for ortho-cousins are the same as for uterine brothers and sisters, and possibly the attitude toward these relatives has developed to prevent a brother-sister type of incest.

In common with most Negro tribes, the Ovimbundu have definite rules of avoidance which determine the attitudes of children toward their parents-in-law. If a son-in-law meets his mother-in-law on the

path, they must pretend not to see each other. Therefore, one steps aside and turns away while the other passes on. If necessity for conversation arises, the two sit facing in opposite directions, or one sits in the hut and the other outside, with the wall between them. These rules apply to a man and his mother-in-law, also to a woman and her father-in-law. A taboo against eating together applies to these relatives. The object of the parent-in-law taboos may be to prevent incest of the parent-child type; various theories have been advanced and these are discussed by Professor R. H. Lowie in "Primitive Society."

The importance of the mother's oldest brother is evident in the family life of the Ovimbundu. Ngonga said that *manu*, which is the name applied to this relative, could pawn his sister's children, so sending them out to work in order to pay his own debts. "But," continued Ngonga, "if I am a thief and escape, it is right that my mother's brother should pay the fine for me." A normal marriage, and one that is enjoined, is that between a man and the daughter of his mother's oldest brother. A father's oldest sister, whom the Ovimbundu call *aphai* (female father), is regarded with the kind of respect which is shown to *manu*, but I was unable to find any specific reciprocal functions between *aphai* and her brother's children.

A family of the Ba-ila (Smith and Dale, 1920, vol. 1, p. 283) is constituted in the way described for the Ovimbundu, and of family life as a social control one may say that parental duties and privileges differ scarcely at all from those prevailing in European families. A strong family affection expresses itself in parental care of children, but the power of the father is limited by clan rules which give to the mother's oldest brother an influence and prerogative greater than that which is exercised by the father himself. Descent is reckoned primarily through the father, so giving a genealogy known as *mukwashi*, while descent through the mother's line is called *mukoa*.

Among the Bakongo the word for family is *vumu*, which literally means "stomach" or "womb." Families are grouped into clans called *ekanda*, each of which has its origin in a woman. "It must be remembered that all relationship is on the mother's side, and with the exception of the father, no paternal relationship has any force." The importance of a maternal uncle is seen by the fact that a suitor does not ask permission from the father of the girl whom he wishes to marry, but he interviews her mother's brother. Since Bakongo descent is reckoned unilaterally, and through the female line, prohibitions of marriage are strict on the mother's side. For example,

marriage is forbidden with maternal cousins, no matter whether they are children of the mother's brothers or of the mother's sisters (J. H. Weeks, 1914, p. 96). The method of reckoning descent and the marriage taboos are linked factors showing a difference between the family organization of the strictly matrilineal Bakongo and the bilateral Ovimbundu.

Examples of family life among Negroes have so far been chosen from Bantu tribes, but to broaden the comparative study instances should be selected from Sudanic Negro tribes of west Africa. Maurice Delafosse (1931, pp. 173-192) makes the general statement that in Negro society of west Africa the rights of a father are inferior to those of a mother's brother. The reckoning of relationship only on the mother's side is widespread and ancient; in fact, this method was at one time the only system of reckoning descent, and the founders of the most illustrious families were women.

But the Wolofs of Senegal have now a system of reckoning descent through males when tracing the genealogies of commoners, yet for the nobility descent is still traced only on the female side. The Walata are Mohammedans, and as such would be likely to favor a method of tracing their lineage through the paternal kindred, yet sons are named after their maternal uncles, from whom they inherit. Moreover, Arab writers of the Middle Ages, when speaking of the important states of Ghana and Manding, record that inheritance was from brother to brother on the mother's side, or from a mother's brother to his sister's son. In addition, Delafosse points out that the Bambara, some of the Mandingo, also the Fulani and the Serer decide rights of inheritance by tracing out relationships through females.

The effect of this matrilineal system on family life is important, for although a family group, consisting of father, mother (or mothers), and their dependent children, exists, the offspring belong to their mother's kindred, and the mother's oldest brother exercises paternal rights over them. Delafosse concludes that "the custom of admitting relationship only on the mother's side must formerly have been universally observed among west African Negroes, and there still exist, at various stages, multiple and undeniable traces of it."

The research of C. K. Meek (1931a, pp. 79-110) among the Jukun-speaking tribes of Nigeria supports the evidence of Delafosse by showing the operation of two systems of family organization, and the transitions that are taking place. The Jibu reckon descent in the female line and practice matrilineal marriage; they also have

a matrilineal system of inheritance. On the contrary, another section of the Jukun is wholly patriarchal, and Meek believes that the later patriarchal system was imposed by the Fulani, who subjugated the Jukun in the nineteenth century. Succession to chieftainship is almost without exception in the male line, yet the Jukun generally reckon rights of inheritance to property through female kindred. The position of the mother's brother is important, and a Jukun says of this relative, "Was it not he who bore me, and am I not his umbilical cord?" In former times, when blood-feuds were rife, a maternal uncle was under obligation to secure revenge for one of the murdered kin.

The functional aspect of kinship terms, and the psychology of family relationships is illustrated by Rattray (1932a, vol. 1, pp. 273-277). The most instructive facts are those relating to the attitudes toward a mother's brother, a father's sister, and a mother-in-law. The way in which sentiments that are primarily directed toward a uterine mother are extended to her kindred is also clearly demonstrated.

It is not unusual for Nankanse children to be brought up in the compound of a maternal uncle (*aseba*), and this is done with the full consent of their natural parents. The attitude toward *aseba* is one which recognizes privileges and obligations; his sister's children help themselves to his possessions, and familiarly call his mother "old grey hairs." The mother's brother is expected to provide a dowry when his sister's son wishes to marry, and, if the dowry is not provided, this youth is entitled to take his mother's brother's cows for the purpose. Nephews and nieces have to assist a maternal uncle with work on his farm, and when the mother's brother dies, his nephew offers sacrifice to the ancestors, asking for material possessions and children. A youth sometimes marries the widow of his mother's brother.

The reciprocal relationship has its counterpart on the father's side of the family. Of the father's sister, the Nankanse say, "She is your father, and came from the same navel string as your father." The name given to a father's sister is *pugera*, and the kind of respect accorded to her is extended to her husband, "who is not to be treated lightly." Marriage with a father's sister's child is prohibited, and for such children the terms for brothers and sisters are used. *Pugera* may become the head of a compound, and as the head of a house she may have the duty of handing property of her dead brother to her brother's son. When a man dies, his *pugera* takes charge of

the funeral customs even if her brothers are alive. *Pugera* may revoke a curse spoken by her brother and not revoked before his death.

Extension of sentiments associated with the term "mother" to the mother's sisters has been mentioned with the data for Bantu Negroes, but a far wider concept of the term is possible. The Nankanse say that "all the women in my mother's town, who are of my mother's age, are my mothers. All the males of my mother's generation are my brothers. The children of these people are my brothers and sisters. All persons who, because of their age and locality, come within the concept of mother and mother's brother are entitled to great respect."

Among western Negroes the mother-in-law taboo is as frequent as with Bantu Negroes. The attitude of the Ashanti toward a mother-in-law is typical of the in-law relationship of parents and children in many tribes. A man may not eat with his mother-in-law or sit on the same mat with her. He may not abuse anyone in her presence, for this would be an attack on the relative herself. A mother-in-law receives presents from her son-in-law at the birth of his first child, and whenever he reaps a crop. A son-in-law may not have sexual relations with his wife, or with any other woman, in the home of his mother-in-law. The fear and respect toward parents-in-law is due to the power they have to take away their daughters if the dowry is not paid. Moreover, parents-in-law, if treated lightly, may influence their daughters to leave the men whom they have married (Rattray, 1932a, vol. 1, p. 274).

The association of attitude and relationship, and the change of sentiments that may occur with altered circumstances, is indicated by the following instance. A male, *A*, did not follow a common custom of marrying his mother's brother's daughter, *B*, but he married his mother's brother's daughter's daughter. The husband of *B* died; then *A* married *B*, who became his wife while at the same time she was his mother-in-law (Rattray, 1927a, p. 99).

The actual functioning of schemes of relationship is not difficult to understand, but the reasons for changes in attitudes and sentiments are not so easy to follow. R. S. Rattray (1932a, vol. 1, p. 273) points out that among the Nankanse inheritance is in the male line, first to brothers, then to sons, while inheritance by a sister's son is exceptional. This seems to be the opposite of the Ashanti system which prevails only a few hundred miles away, for the Ashanti trace inheritance and descent through a sister's son to the exclusion of a

man's own son. "The change over from the so-called 'matrilineal' to a 'patrilineal' way of reckoning has been so comparatively recent, however, as to leave extraordinary survivals of the older institution."

Maurice Delafosse (1931, p. 173) does not favor an explanation of these changes on historical grounds. He says that one might be tempted to believe that the substitution of a paternal for a maternal kinship system is primarily due to the influence of Islam, but the facts contradict this hypothesis. He then gives instances of partially Mohammedanized tribes who retain the chief factors of a matriarchal system. These instances, quoted by Delafosse, do not, in my opinion, refute the historical hypothesis as an explanation of the blendings and substitutions of social organization as seen at present. Mixtures and changes are the logical outcome of a contact of two different types of organization, and one would hardly expect to witness the complete overthrow of an old and well-entrenched matriarchal system, even under a patriarchal Mohammedan conquest.

If historical hypothesis does not account for changes in the system of reckoning descent, inheritance, and succession, together with new attitudes toward certain types of cousin marriage, then the changes are due to some unexplained psychological processes that are taking place within the family itself. When the attitudes and sentiments that characterize a kinship system are actually established, their functioning is understandable, but ethnologists do not know the primary reasons for the establishment of entirely new attitudes. What is there within the family itself, and apart from extraneous contacts, that can bring about a revulsion of feeling toward the former type of cousin marriage, or the operation of a system of descent, inheritance, succession, or matrilineal residence?

Changes in the economic life, or in sex ratios, might possibly influence a social system, but so far the changing conditions remain unexplained, unless one accepts the hypothesis of a clash of two different systems which originated in different places, at different times, and under different circumstances.

To the subject of social organization and kinship, H. von Baumann (1926) has contributed a long and detailed study of father-right and mother-right in Africa. E. Burton has written on the social organization of the Baluba, and P. A. W. Cook on that of the Bomvana. E. J. Krige's (1936b) social study of the Zulus is a comprehensive work. H. S. Mekeel (1937) has written on the social administration of the Kru of Liberia. A. I. Richards (1934) has an essay on "Mother Right among the Central Bantu." Rivers' (1924) work on "Social

Organization" is a useful background for African and other regional studies of this subject. F. de Zeltner (1908) has reported on the sociology of the western Sudan.

CLANS AND TOTEMS

These units of social organization are based on family systems of inheritance and succession, whereby children take the clan and totem of their father or mother. Consequently we have to consider the extension of family attitudes to wider groups. The structure of clans, which in some Negro tribes are totemic, together with the social and religious functions of these units, will now be considered in relation to Bantu, Sudanic, and Nilotic Negroes.

A word of warning to students of totemism is necessary. Rattray (1936, p. 19) states:

"Anthropologists have been over-ready, I believe, to range all over the uncivilized world, and seek for, or imagine that they ought to find a kind of *genus Americanus Totemi*. I doubt if we should even always be justified in labelling as a species or sub-species of our orthodox totemic conception many institutions which at first sight seem to bear some resemblance to it.

"I should, therefore, make it a first principle to treat every manifestation of totemic symptoms in Africa on its own merits. I should advise an approach to all such phenomena with a very open mind. I should carry this good resolution to the point of being prepared to discard the term "totemism" altogether, where what is found bears only a superficial resemblance to what the word implies in its original home."

For a discussion of the meaning of totemism and the tendency to confuse animal cults, and reverence for certain animals with totemism, A. A. Goldenweiser (1910, pp. 179-293), R. H. Lowie (1911, pp. 189-207), and Boas (1916) on the "Origin of Totemism" should be consulted. J. G. Frazer's (1910) studies range over the world for comparative data, a method criticised by Goldenweiser (1910). One of the main objections to Frazer's method is the use of an undefined and too comprehensive term for the classification of many beliefs and customs that are radically different.

BANTU TOTEMS AND CLANS

I was unable to find among the Ovimbundu of Angola any functioning of a clan or totemic system, but by inference from the nature of their family organization and the frequency of clans and totems among the Bantu, the Ovimbundu probably had a clan organization

which has fallen into desuetude as a result of four centuries of European contacts. But a few hundred miles to the east of the Ovimbundu, the Ba-ila have totemic clans that are named after animals and plants, including the duiker antelope, lions, pigeons, and the baobab tree (Smith and Dale, 1920, vol. 1, p. 289).

Totemic clans of the Ba-ila have a social function as exogamic units. Members of different clans, though living in the same village, may marry, but members of the same totemic clans are not allowed to marry even though they live great distances apart. The totem animal is not to be eaten by members of the clan because the animal is a kinsman. This prohibition is still observed by old men, but the young men are disregarding the taboo, so providing an instance of the decline of totemism as a social control. A child, whether male or female, takes the mother's clan and totem, and, as previously noted, descent is reckoned in both the male and female lines. Mutual aid between clan members and also a sense of communal responsibility within the clan are strongly developed. The clans of the Ba-ila are mutual-aid societies whose members are pledged to give reciprocal assistance in redeeming debts, avenging murder, and extending hospitality to all members of the clan.

Of the Bakongo tribe, J. H. Weeks (1914, pp. 96, 307) states that clans are not localized, each in its own area, but that any village is likely to contain members of several clans. The existence of totemism is uncertain, yet the Bakongo speak of the "cowrie people," the mole-cricket people," and the "tortoise people." At the present time, no inflexible rule exists with regard to the marital relationships of two clans, but there prevails a general understanding respecting the inter-clan marriages which are permissible or disapproved.

The social organization of the Baganda (northeastern Bantu) includes broad kinship divisions, each of which receives the name *kika* (clan). The origin of this unit is traced to one ancestor, and all members of a *kika* have two common totems, of which one is the principal and the other subsidiary. Both the totems are sacred, and for this reason members are forbidden to kill or eat their totemic animals. All men of the same generation and of the same *kika* are called brothers, and all women of the same generation and the same clan are sisters. Children apply the name of father to all their clansmen of a generation older than themselves, and all women of that generation are called mother. One of the names given to a child indicates the clan to which it belongs. In former times, all the clans, with one exception, were exogamous, yet there was a practice of

taking a second wife from the paternal grandmother's clan, and this spouse had special family functions in relation to her husband; for example, she was responsible for the custody of clippings from his hair and nails. A wife adopts her husband's totems but does not discard her own, and children are taught to respect the totems of both their father and their mother. Yet children are allowed to disregard their father's totem when they have reached adult age. Descent is reckoned on the father's side of the family, and every child takes his or her father's clan and totem. But an exception is made in the royal family, in which each prince belongs to the clan of his mother and takes his mother's totem. (J. Roscoe, 1911, pp. 133-185).

Clan organization among the Baganda has effects other than those affecting marriage and family organization. Civil administration is based on the *kika* and its subdivisions. The first of these is a *siga*, ruled over by a chief who is regarded as a clan father, since he hears complaints and tries delinquents. An *enda* is a subdivision of a *siga*. The chief of an *enda* has judicial power, though members tried by him have rights of appeal to the chief of a *siga*, and from that person appeal can be made to the head of a *kika*. The religious aspect of clan organization is shown by the fact that the chief of each *kika* has a priestly office by virtue of his custody of the clan god and the temple used for worship.

In addition to affecting legal procedure, religious observances, and family life, the clans had at one time specific functions in relation to the king, who was supreme ruler. Members of the Lion clan had charge of certain small, sacred drums; these clansmen did no work for the king in his royal enclosure because they were related to him. The Colobus Monkey clan gave the king his chief butler and provided also a man who had charge of the king's drinking water. From this clan was chosen a potter who made the royal cooking vessels. The chief duty of the Otter clan was to make barkcloths and to supply the king with one of his wives, whose duty it was to make the royal bed; this was a hereditary office.

SUDANIC TOTEMS AND CLANS

The nature and meaning of clan organization in west Africa has been examined by M. Delafosse (1931, pp. 192-200), who states that a clan is an ensemble of the families of a distant ancestor, but a clan division may or may not be totemic. If the members of a clan are not too widely scattered, they may retain some cohesion by

acknowledgment of one headman, but traditions have become obscured, until at last the dispersed members of a clan cease to know each other. In some instances, the name of a man recalls his former clan membership; thus, among the Mandingo the personal name San Bamba means San of the Bamba clan. A legend or a surviving prohibition sometimes points to the former existence of a clan; for example, the Diara men of the Mandingo have respect for a lion ancestor, who was suckled by a lioness because his mother had no milk. A clan taboo generally means that members of the clan have to refrain from killing or eating the emblem animal of their clan, and usually clan exogamy is practiced when clans are functioning.

Professor D. Westermann (1921, pp. 54-57; 87; 216-219) has reported several important aspects of totemism and clan organization in Liberia. Among the Kpelle, totemism is of two kinds, individual and collective, so that in addition to having a clan totem a man has his personal emblem, which may be either a plant or an animal. If a man regards the leopard as his personal totem, he reverences all leopards and regards them as friends and helpers. He must not injure a leopard and may not eat its flesh. If he finds a dead leopard, he is under obligation to bury it. Other personal totems are the elephant, several kinds of antelope, the banana tree, the kola-nut tree, and the oil palm. Both personal and clan totems are transmitted from father to son and from mother to daughter, and each totem has a mythology to explain its origin and history. Westermann regards totemism as part of a complex religious belief, and the social importance of totemism is shown by prohibition of marriage between clan members of the same totem.

The data so far considered have usually shown that clan membership does not imply a particular local residence; on the contrary, clan members are scattered throughout many villages. But among the Kpelle there are instances of one totemic clan occupying a village to the exclusion of all other totems, and under such organization the head of the totemic clan is the village headman. All children belong to their mother's clan. Westermann has called attention to the need for greater precision in the use of the word totemism. He notes that some creatures whose flesh is forbidden are not totemic. In his discussion of totemism among tribes of the western Sudan, J. Brun (1910, pp. 844-870) has pointed out the need for careful discrimination between the several types of belief and ritual associated with animals.

In Ashanti a type of clan organization in which descent, inheritance, and succession are traced through females is fundamental to all laws regulating the succession of kings, disposal of property, marriage, and the functioning of a classificatory kinship system. R. S. Rattray says, "If a woman married twenty husbands in succession, and these were of every possible clan, all the children would be of her own blood and her own clan."

Totemism is one aspect of the *ntoro* divisions, of which Rattray notes nine. Each of these nine divisions has a principal totem and several subsidiary totems. The Bosommuru is one of the most important divisions of *ntoro*, which is a word describing the exogamic divisions to one of which each Ashanti belongs. Connected with the Bosommuru *ntoro* division is the following legend of origin in a mythical ancestor, the python, which was the founder of the clan.

In remote times two people who had no children lived by Lake Bosommuru, where a python sent by the sky god sprayed them with water and told them to lie together. The woman conceived and gave birth to the first children in the world; therefore, the python is an ancestor with whom the Bosommuru people claim relationship. To their principal totem, the python, they show respect by refusing to kill the reptile or to eat the flesh. A dead python must be ceremonially buried by the Bosommuru people. The rite known as "washing the *ntoro*" is a ceremonial cleansing of members of the python totem, who then partake of a ritual meal. When a woman marries, she takes all her husband's *ntoro* taboos as her own (Rattray, Ashanti, 1923, pp. 47-49; 52-53).

With regard to the Nankanse, Rattray (1932a, vol. 1, pp. 234-236) points out that the tribe is now composed of twenty-six or more clans, and from these he selects the Leopard clan as a typical example of clan organization. The Leopard clan, which has a legendary history of origin and descent, is divided into three main subsections, each of which traces descent from one of three half-brothers by the same father but by different mothers. This father was the founder of the Leopard clan.

Members of this clan state that when an old man is about to die a leopard is seen in the compound, and the deceased "rises up" as a leopard. Women and children who have not begun to observe the clan taboos do not turn into leopards when they die. On the death of a clansman, a fowl is killed and part of the bird is buried with the corpse. Usually a clansman will not kill a leopard, and if he does so because of the animal's depredations a ceremony will be

performed at a sacred grove. A dead leopard must be buried by those members of the clan who find it. Two of the important points established by Rattray's observations are the formation of new subtotems, and the localized residence of members of a clan. The present tendency is for clan reserves to become more cosmopolitan, but clan exogamy still prevails with some modification. A wife keeps the taboos of her own and her husband's clan, and a husband respects his wife's taboos. "Descent in these clans is patrilineal. Females, equally with males, fall into clans, taking as they do that of the father, but they are unable to transmit their clan to their children, who inherit, or *are initiated or adopted into*, that of the male parent."

Evidence respecting the structure and function of totemic clans in Nigeria is indefinite. The Yoruba use a word *orile*, which is said to have a totemic significance in relation to a family. Some families claim descent from a totem animal, while others state that their totems were ancient family gods who granted fecundity and other blessings. Totems include the elephant; Ogun, the god of war; and Agbo, a ram. Information is meager, but apparently both boys and girls took their father's totem. A woman could not adopt her husband's totem, and marriage of members of the same totem was forbidden.

C. K. Meek (1931, pp. 74-78) describes sacred animals, including crocodiles and manatees, whose flesh may not be eaten, while these sacred animals must be accorded burial and mourning rites. Yet this is not totemism, since the sacred animals are not emblems of clans; neither are they individual totems. The creatures belong to a large class of revered animals, some of which have a legendary history indicating their service to the country. Again, a hunter may perform rites to destroy the power of the soul of an animal he has killed, but this practice has no connection with totemism. That family groups of the Jukun may originally have formed clans seems probable, but the social organization is now so indeterminate that the previous existence of a totemic clan organization is doubtful.

A widespread occurrence of totemic ideas in northern Nigeria leads to the conclusion that "society was, at one time, among many of the tribes, probably organized on a totemic basis." At the present time, many tribes are organized into exogamous clan-divisions which are frequently totemic. The Mahalbawa of Katsina, the Rumawa of Kano, also the Durbawa and Yan Gido of Katsina, were exogamous, since men of the clan would not marry women of the same totem

as themselves. The researches of C. K. Meek emphasize the importance of local exogamy, "presumably on grounds of original kinship relationship." The Kona and Pongo forbid marriage between people of the same section of a village; and among the Nasarawa, organization for marriage purposes is on a territorial and not a totemic basis. Exogamous rules are enforced between villages (C. K. Meek, 1925, vol. 1, pp. 185-187).

According to H. Labouret (1931, pp. 222-250), certain western Sudanic tribes, the Lobi, Birifor, Dian, and Gan, are divided each into four sections, and each of these tribal divisions may be considered as a clan. Subclans are distinguished by the names of animals which may not be killed or eaten by members of the subclan. But in some subclans the prohibitions have completely disappeared, though legendary histories of subclan origins still persist. Apparently there is no initiation into a clan, neither does clan exogamy exist, but exogamic rules forbid marriage between members of the same subclan. Labouret is uncertain whether the concept of a totemic clan is disintegrating or is in process of formation.

It is not impossible that in different regions, or even in the same localities, the two processes of disintegration and formation of new social elements and usages are simultaneously active, so giving rise to types of organization which are not readily explained on either historical or psychological grounds.

Yet, despite differences in the data considered, the main functions of clans and totems are clear. The evidence has indicated that these units affect tribal structure, possibly the place of residence, and the extension of kinship concepts from the family outward to broader groups. Totemic clan organization has a bearing on mythology, personal attitudes, collective responsibility, marriage, descent, inheritance, succession, and the discharge of religious observances, including sacrifice and funeral rites. These aspects of clan organization observed among Bantu and Sudanic Negroes are not incompatible with the functions of the clan among Nilotic Negroes.

NILOTIC NEGRO TOTEMS AND CLANS

In the Lango tribe (Driberg, 1923, p. 190) the clan at one time functioned as a unit for the communal ownership of land; the functional basis of the clan appears to have been territorial. At present this function of the clan survives, as may be seen by the fact that a person who is alien to the clan has to make a present to the head of the clan, in return for which he receives a tenancy and equal

rights in the usufruct of the land, without being a member of the clan itself. But a village, and not a clan territory, is now the unit of tribal life.

The Lango do not retain a clear conception of the origin of their clan system, but say that clan divisions were founded by remote ancestors. The clan system is based on prohibitions and requirements. Members of the Monkey clan mourn as for a man if a monkey is killed. If a member of the Duiker clan kills one of these antelopes, the clan buries it, mourns, and covers the grave with leaves. The clans are exogamous, and marriage is forbidden within either the maternal or the paternal clans. When a woman marries, she observes the rules of her husband's clan and continues to do so even after she is divorced. Up to the time of puberty no boy may eat the flesh of his totem animal, and females of all ages must observe this taboo toward their totem animals.

The religious function of clan organization is emphasized by the evidence of Driberg, since several clans have special privileges and obligations connected with rain-making—the most important religious rite of the Lango tribe. Making of ceremonial weapons called "rain-spears" is the prerogative of the clan Jo Angodya, whose blacksmiths manufacture these articles free of charge. An old man of this clan washes the spear in water which has been blessed with his spittle, and then he prays, "May the harvest be a rich one." The Jo Inomo clan has the duty of sacrificing a he-goat and a ram, which are contributed by a particular family. The Jo Atengoro clan performs a ceremony to ward off attacks of locusts (Driberg, 1923, p. 250).

The probability is that in former times all clans were totemic, but at present clans show a tendency to subdivide as a result of migrations, warfare, and dissensions. These subclans allow intermarriage of their members, although these trace their descent from one clan. The conditions suggest a breaking down of the controls of clan and totemic organization. But what is true for one tribe does not apply generally. K. G. Lindblom (1916, p. 107) says of the Akamba (Bantu), "The clan system does not seem to be by any means an antiquated institution, but is still vigorous, and new clans often spring up."

The Dinka are divided into exogamous clans, each of which has a totem animal that is regarded as an ancestor. In addition to his clan totem, a man may have a personal totem; this is usually an animal which he treats with respect because of a mystical relationship between them. Children take the totem of their father, but they also

respect the taboos relating to their mother's totem. Among the Lotuka-speaking tribes, exogamous, totemic clans exist. Members of these clans trace descent in the male line, and at death they are reincarnated in totemic animals (C. G. Seligman, 1912, p. 705).

Clan organization and totemism are known among some of the Half-Hamites. According to A. C. Hollis (1909, p. 6), each clan of the Nandi has one or more totem animals, among which are the leopard, grasshopper, spotted sheep, and goat. Each of these animals is a family totem, and although persons with the same family totem may not marry, marriage within a clan is permissible. In former times, killing of a totem animal was punishable by death or banishment from the clan, and all the cattle of the defaulter were confiscated. At the present time, and especially among young men, an apology to the slain totemic animal is said to be sufficient redress. Therefore, a Nandi who has killed his totemic elephant says, "I am sorry, I mistook you for a rhinoceros."

JOKING RELATIONSHIP

A joking relationship between members of certain clans of the same tribe is a social phenomenon that has been mentioned by several ethnologists, but the subject has not been thoroughly investigated. Data relating to a joking relationship between certain individuals who have a definite place in a scheme of kinship have been mentioned, and there is a probability that joking relationships between clans is merely an extension of the "respect attitude" existing between persons within a family. See F. Eggan (1937, pp. 75-81).

A typical example of joking between individuals is given by C. K. Meek (1931, pp. 115-117). Among the Jukun, a certain kind of banter is indulged in between a man and his sister-in-law, whom he may one day inherit as a wife if his brother predeceases him. A man says to his sister-in-law, "You know I don't think much of your cooking, and if you don't improve, I'll have to drive you out and marry someone else." To this the sister-in-law replies, "If you got rid of me, there isn't another woman in the whole world who would think of marrying you." Meek examines joking relationships between various relatives in the Jukun and other Nigerian tribes. Where such an attitude of familiarity exists between grandchildren and grandparents, a concept of reincarnation may be the psychological explanation; on the contrary, the prevalence of a junior and a senior levirate may account for some of the joking relationships.

Henri Labouret (1929, pp. 244-254) has described a joking relationship between clans of the Mandingo, Fulani, and Yolof tribes.

He points out the gradual extension of this type of relationship from cousins to clans within a tribe, and between representatives of friendly tribes. Among two clans of the Yolof, the joking relationship implies the existence of duties of a reciprocal kind. One clan serves the other at Mohammedan festivals by killing animals for a feast and cooking the meat. Of the two joking clans, one is subservient to the other, and the servants in return for presents take charge of sowing, harvesting, and the sale of produce for their employers.

Some tribes of northern Ashanti have a privileged familiarity between certain relatives. A joking relationship may exist between grandparents and grandchildren on both the father's and the mother's side. A child will inquire when a grandparent intends to die, will spread false reports of the death of this relative, will abuse him, take food without asking, and play practical jokes. Privileged familiarity exists between the tribes Nankanse, Dagomba, and Moshi, whose members spread false news which sometimes states that a chief of one of the tribes has died (R. S. Rattray, 1932a, vol. 1, p. 8; vol. 2, pp. 336, 390).

BLOOD BROTHERHOOD

Another concomitant of social organization is blood brotherhood, which has not been thoroughly studied. The rites of the brotherhood (drinking milk and blood; sucking, smearing and eating kola nuts) are well known, and the distribution of the practices has been plotted (Frobenius, 1922), but only recently has attention been paid to the psychological and social implications of the practice. Among the Ovimbundu, a blood compact is sometimes made secretly between husband and wife, but more commonly in Negro tribes the alliance is made between village headmen, heads of clans, or tribal chiefs.

The Bangala commonly observed a blood brotherhood between headmen of villages. J. H. Weeks (1909, p. 444) states that "all the important men of the district had many cicatrices on their arms, indicating the frequency with which they had performed this ceremony." The effect of the rite is to stop feuds and to cause the contracting persons to act as blood relations. Men who performed the rite were supposed to warn each other of danger, to hold property in common, like members of a family, and to lend without interest and without asking for repayment. A blood brotherhood was often made between headmen of villages.

When discussing blood brotherhood among the Zande, E. E. Evans-Pritchard (1933, pp. 370-402) points out that drinking the blood of each other may seal an individual pact, or the rite may

imply a bond between two social groups of which the two participants are members. Is the rite a bond of true kinship? Is the alliance based on homeopathic principles of magic or on the mechanism of the curse? Are we to regard this exchange of blood chiefly as a personal act or as a collective bargain? The answer to these questions asked by Evans-Pritchard will depend on the locality and particular rite which is under consideration. The blood rite between husband and wife, as practiced by the Ovimbundu, is a purely personal matter, and the main idea involved is one of contagious magic, for the two believe that death of one will result in death of the other. On the other hand, the instances of blood brotherhood cited by J. H. Weeks show that the Bangala regard the exchange of blood as a contract between social groups, which are represented by their leaders who make the exchange. J. Raum (1907) has discussed the subject of blood brotherhood and the ceremonial use of spittle among the Wachagga. Other contributions to the subject of blood brotherhood are those of A. M. Hocart (1935), F. L. Williams (1935), and P. Hazoumé (1937). J. H. Driberg (1935, No. 110) has contributed an article concerning a relationship known as the "best friend."

The evidence has indicated that among some tribes a clan organization has a territorial, exogamic, and totemic basis. A clan unit may coincide with a village unit, or each of several subclans may be restricted to a definite part of the same village. This territorial basis of the clan is, however, by no means general, and village life as an institution, which can and actually does function apart from clan or totemic organization, will be investigated (p. 495).

For the further study of totemism, B. Ankermann (1915) has compiled data relating to the forms and distribution of this institution. In a later publication (1918), Ankermann considers totem cults and beliefs in the soul. C. Bullock (1913) and D. Blackburn (1904, No. 115) have contributed to the study of reverence for animals among the Mashona and Zulu, respectively. P. J. A. Correia (1921-22) published notes on a Nigerian totem, and C. H. Harper has prepared brief notes on totemism on the Gold Coast. Further studies in west Africa have been made by E. R. Langley, who describes the clans of the Kono people of Sierra Leone. R. H. Lowie (1917) has a chapter on African kinship systems in his "Culture and Ethnology." L. P. Mair (1935, No. 71) published notes on totemism among the Baganda, and P. W. Schmidt (1914) made a contribution under the general title, "Das Problem des Totemismus." R. P. H. Trilles (1912b) produced a substantial work on totemism among the Fan (Fang).

P. F. Wolf (1911) examines some factors of totemism in Togoland. Material exists for a more thorough general survey of clans and totems. It is true that more field work is needed, but the data now available have not been fully examined and compared.

THE VILLAGE AND THE KINGDOM

The founding of a new village, together with the organization and functions of a village unit among the Ovimbundu, illustrates several important principles of government. Usually a Negro village is a basic unit in law and taxation for which a village headman or minor chief is responsible, while religious observances are often dependent on a medicine-man who has charge of sacred groves, sacred drums, shrines, figurines, and the poison ordeal during litigation. Economically, too, a village is often a self-contained unit, with typical handicrafts, agricultural activities, fishing rights, and a public market. But the headmen of villages are subject to the jurisdiction of a supreme chief or king, for whom they act as intermediaries in legal procedure and taxation.

Among the Ovimbundu, each village is governed by a *sekulu* or petty chief, and a kingdom is formed by a large number of villages having an *osoma* (king or major chief) at the head of the administration. Throughout the country occupied by the Ovimbundu, several *olosoma* rule, each having jurisdiction over a definite area composed of village units. Despite jealousies and even strife, the *olosoma* of the Ovimbundu formerly united both for warfare and for the formation of large caravans which traded far into the interior of Africa.

A capital village where an *osoma* resides is called *ombala*, and the site is usually distinguished by the planting of trees, a custom which is not followed in ordinary villages. In addition to the house of the king (*osoma*), which has to be occupied without repairs until it becomes untenable, there is a house of meditation to which the king retires for communion with ancestral spirits during time of drought. In the *ombala* of Ngalandi, which is influenced by the Vangangella culture, there is a burial hut for kings and their wives, and here a fire is kept burning continually. The house of bows is an important structure associated with ancestor worship. In this hut are kept the sleeping mats, bows and arrows, tobacco pipes, and carved wooden staffs of dead kings. In each village, and not only in the capital village, a house of bows contains similar relics of the village headmen (*olosekulu*). A village must be regarded as a religious as well as an administrative unit.

A new village site may be selected because of epidemic disease or exhaustion of the land, and the choice is made by the *sekulu*, who is accompanied by a medicine-man and several elders. Unpaid, communal labor is employed for constructing the house of a chief or king, the house of bows, the guest house where strangers are accommodated, and the *onjango* or men's house. The *onjango*, where males foregather for their evening meals apart from women, is the focus of village life. Here trials are conducted by the *sekulu*, from whose judgment there is right of appeal to the *osoma*, and here there is discussion touching all matters relating to taxation and village administration.

Land is distributed by a *sekulu* to the heads of families, who among the Ovimbundu are the maternal uncles. A father of a family receives his allotment, not directly, but from his wife's oldest brother. Some villages are not enclosed, but others are stockaded with high poles, and heavy wooden doors are provided at intervals. The interior of a village may or may not be divided by palisades to mark off family divisions. Completion of the site is celebrated by drinking beer and feasting. The beer is stirred with the claws of chickens that have been killed to provide a medicine-man (*ocimbanda*) with blood which he uses for sprinkling the walls of new houses. New fire is made by the *ocimbanda*, who employs the twirling method, although more modern ways of producing fire are known. After fire has been kindled in the house of a *sekulu*, or in the home of the *osoma* if the village is the *ombala*, a distribution of fire is made to every house.

The Ba-ila country of Northern Rhodesia is divided into communities numbering about eighty, and these are strictly demarcated, with a ruling chief for each community and a headman for each village (Smith and Dale, 1920, vol. 1, p. 109; vol. 2, p. 178). This arrangement corresponds to that of the Ovimbundu, with their *osoma* as the head of a large district and a *sekulu* as a village headman. Data relating to the selection of a village site, and the ritual employed in consecrating this, are similar among the Ba-ila and the Ovimbundu. Among the Lambas, villages are of different functional types. In addition to villages ruled by chiefs who are in the direct lineage of chiefs, and those administered by commoners, a certain type of village is known as *ichipembwe*, which is of importance in legal procedure. Such a village is a place of refuge for one who is pursued by an avenger, who must halt outside the village. Within the village the fugitive is caught and tried, but the sanctuary gives him temporary protection (Doke, 1931c, p. 56).

SUMMARY AND READING

The arrangement of marriage contracts, the founding of a family, the employment of kinship terms, the organization of clans, and the acceptance of village life as a basic unit in government, have illustrated some fundamental practices of Negro society. Despite local differences of procedure, the examples chosen can be regarded as the essentials of social organization among Negro tribes, whose further internal control is affected by the formation of secret societies, age-groups, and customary laws.

The data recorded under "Social Organization" are not merely of academic interest; the importance of the facts is functional rather than historical. Schemes of relationships, family duties, laws of descent, inheritance, and succession, the clan, the village, chieftainship, and the association of religion with all these factors of organization, are of the greatest practical importance in European administration. This has been clearly demonstrated by S. F. Nadel (1935), who has prepared an account of the social organization of the Nupe of Nigeria, with special regard to the family, village communities, the subtribe, the tribe, and the state. He also distinguishes differences between rural and urban organization. His description deals with the social, economic, religious, and political obligations of individuals to these institutions, and the importance of age-grades as a control is stressed. Structurally and functionally, this western Negro organization resembles Bantu examples.

A study of village life has been made by J. Decorse (1905a) for the Congo, and in most ethnological monographs some description of a village community is given. E. D. Earthy (1936) has examined the social structure of a town of the Gbande in Liberia. W. S. Plauen (1929) has described in detail various insignia of chiefs. M. Read (1936) has prepared an article, "Tradition and Prestige among the Ngoni." R. S. Seton (1928) gives an account of the installation of an Attah (ruler) of Idah in Nigeria, and P. H. van Thiel (1911) considers the dynasty of Bahinda. O. G. Williams (1935, No. 130) has published a study of "Village Organization among the Sukuma." C. D. Forde (1937a) has considered "Social Change in a West African Village Community." See also P. von Werder (1937), and E. J. Krige (1936b, pp. 42-52). As with other subjects, data for study of the village community and chieftainship are available, but tedious work is necessary to classify the facts, and political experiment is now needed to harmonize African procedure with methods of European administration.

IV. SOCIAL CONTROLS

SECRET SOCIETIES

Criticism directed against an undefined use of the word "totemism" also applies to the term "secret society." Since any secluded concourse of people is a secret gathering, the words have been vaguely used to describe different types of organization.

Ethnology deals with complicated psychological processes, and with institutions whose structures and functions are intimately associated; therefore, clearly cut divisions such as secret societies, age-grades, and legal codes are not to be expected. For example, a secret society may prove to be an organization which has its inception in puberty rites, and the structure of the secret society may depend on the grouping of members according to their ages. Moreover, a society of this kind often has legal functions to perform. Hence, there is a blending of institutions and their functions. But, despite the difficulty of separating and defining the controlling agencies of Negro society, there is the possibility of studying concrete examples to show how the controls function.

The type of secret society now under consideration has a distribution from Sierra Leone through west Africa into Nigeria, the Cameroons, and the forest region of the River Congo. Secret societies may be ancient or modern. They are usually formed either for men or for women only, and one of their functions is the preservation of sex prerogatives and the sex dichotomy which is characteristic of tribal life. But E. de Jonghe (1907, 1936) points out that the sexes are not always separated when secret societies are formed. The lower Congo region has a society called *nkimba*, from which women are excluded; yet there is the *ndembo*, to which women are admitted together with the men.

The standing of a member within a society usually depends on social position outside the society, and on the possession of sufficient wealth to pay for initiation from one grade to another within the society. Interference in politics and trade with a view to giving members of the secret society special privileges is a common practice of secret organizations, and in some regions officers of the society may act not only as judges of those who have offended the society but also as executioners.

Secret societies have at times exerted their influence to place a check on the despotism of a native ruler. Again, officers of the society

have by terrorism upheld tribal laws, and in doing so extortionate methods have been used, especially against persons who were not members of the society. But if the European concept of law can be forgotten in order to regard secret societies from an African point of view, a functional value must be granted to the native institution. No doubt, in certain stages of social development, secret societies served as a crude but necessary form of social control, though their procedure cannot now be tolerated by European governments.

A report on the Leopard Society of Sierra Leone (D. Burrows, vol. 13, 1913, pp. 143-151) indicates that human sacrifice and ceremonial cannibalism were essentials of the society which was formed about a century ago. Unity of the members was symbolized by their partaking of a ceremonial meal from the flesh of human victims, who were cut up so that minute parts could be sent by messengers to those members of the society who lived too far away to attend the bush meetings.

The object of the Leopard Society, which had the Crocodile Society as a branch, was resistance to other societies, and a counter move against European control. The main aims were therefore political and social, but a religious cult based on fertility rites was included; and the members held in great reverence an object called *borfimah*, which was said to be the womb of the world.

Borfimah was a bag of leather, or a calabash stuffed with a concoction which was sealed within the receptacle by applying a coating of wax, mud, and blood to the aperture. The outside of the *borfimah* was decorated with cowrie shells and brightly colored seeds. Members of the society bore peculiar scars on their hips. Notice of a meeting was carried to members verbally, and a sacrificial victim, who was usually an aged person or a sickly child, was obtained by making payment to the nearest relatives or owners. On the night of the sacrifice, the Leopard men wore cloaks of leopard skins to which wooden models of leopard's feet were fastened, so that these might be pressed to the ground to suggest that a prowling leopard killed the victim. After sunset, a reed pipe was blown as a signal for all to keep indoors while the victim was murdered. Court evidence proved that the body of the victim was opened and omens were read by inspection of the liver and membranes. Fat from the kidneys was removed and used for giving new life to the *borfimah*.

Two of the most important secret societies of Sierra Leone and Liberia are the Porro for men and the Bondu for women. These ancient societies were political in origin, and their formation

was necessary in order to resist chiefs who were selling their subjects as slaves. Members were distinguished by cicatrized marks, and certain corporal markings designated rank among the members. The age of members is still of importance in deciding status, since males who belong to a local Porro must not be under thirty years of age, and for enrollment in the Grand Porro they must have attained fifty years. This society is said to have been a protection against the Leopard, Crocodile, and Baboon societies. Revelation of secrets was punishable by death, and although details of the rites are not well known, homosexuality is reported.

The Porro and Bondu societies are definitely connected with tribal initiation of boys and girls, for at that time membership in the secret society begins. Newland's observations indicate that the first stage of membership for boys includes initiation in the bush and a ceremonial restoration to the villages from which the novices were taken. Initiation rites for the women's society, Bondu, conform to those described under "Education." The Bondu is important among the Mendi, Vai, and Temne of Sierra Leone and Liberia. Girls are initiated at the age of ten years, and as a sign of membership they are cicatrized; then follows a training in sex knowledge, domestic work, and ceremonial dances. At the end of their seclusion, the names of the girls are changed and they appear as masked, painted figures. Shortly after this ceremony, the girls are marriageable (H. O. Newland, 1922, pp. 186-206).

So far the initiation camps of the Bondu and the Porro are seen to resemble those of ordinary tribal initiation, but membership of the Bondu continues into adult life as an association for resisting tyranny of husbands. Newland states that some societies for males have admitted females, but no female society admits males. Information relating to secret societies leaves many important points unexplained, but apparently the Porro and the Bondu societies are social and political groups arising from ordinary tribal initiation. G. W. Brown (1937, No. 3) has described the importance of the Porro in modern business.

The words Ekkpe, Ngbe, and Egbo are different tribal names for Leopards, whose secret societies have a wide distribution in west Africa. In Nigeria the Egbo society was at one time extremely powerful because it controlled all the most important functions of government and was ruled by a free-born chief whose office was hereditary. The society still exists, with limited activities, some of which are concerned with regulating trade and recovering debts for

members of the society. Details of the writing of a secret society have been given (chap. VII, "Languages and Literature").

Age is important for securing advancement in the society, since no male is allowed to learn all the secrets until he is of middle age. Advancement through the grades, of which there are seven, depends on payments by the member to his society. The fee for initiation into the second grade is \$150. Members of the grades are distinguished by painting the body, and in addition each grade has peculiar accouterments, dances, tunes, and insignia of office. (P. A. Talbot, 1926, vol. 3, pp. 754-801).

Of the Ogboni league, S. Johnson (1921, p. 77) states that at Abeokuta the members constituted a town council to which even the king was amenable. Among the Egba and Ijebu, the Ogboni had power of life and death, while the enacting of laws or the repeal of these was an ordinary function of the society. The Ogboni Society is a political oligarchy to which few women are admitted, and from this exclusive body a few members are chosen to form the king's cabinet. In accordance with the general rules affecting these political societies, the Ogboni can inflict punishments, including banishment from the society.

Of the Nigerian societies, R. E. Dennett (1916-17a, pp. 16-29) says, "Secret Societies are religious, medical, economic, and social. They are found among the ruling classes and also among the slaves. Many of them are called after beasts, birds, or reptiles. . . . Secret societies in Africa appear to be of two kinds; firstly, those that help the rulers to keep their people in order; and, secondly, those that aid the people to resist the despotism of their rulers." Dennett then considers types of secret political organization among the Bini and the Yoruba. He deals also with the economic aspects of trade guilds of farmers and hunters, who are members of a secret society.

The use that J. H. Driberg (1931, pp. 413-420) makes of the words "secret society" in reference to the Yakan organization of the Lugbwara tribe of northeast Africa illustrates the present lack of an ethnological definition of the words. Yakan is a secret organization, but the society differs in several fundamental respects from the secret societies of the forest regions of west and central Africa.

The age of Yakan is unknown, but the society has been revived from time to time, and it has spread among the Dinka and the Bari. The main object of the society has been the maintenance of tribal culture against aggression from Europeans and rival African tribes. The operation of the society shows "what a strongly integrating

factor such a cult may be in welding together unrelated tribes." There is a ritual preparation, housing, and distribution of sacred water containing various ingredients. The water is believed to restore ancestors to life, to resurrect dead cattle, and to give those who drink it immunity in flouting all government orders, and in refusing to pay taxes. In battle, the drinkers of the sacred water were said to be invulnerable. Those who refused to drink the water would become termites when they died. The aims of the society are therefore political and social, with a strong backing of magic and religion. But only in these very general principles does the Yakan resemble typical secret societies.

Many additional publications further illustrate the social, political, legal, and magico-religious nature of secret societies. W. Addison (1936), K. J. Beatty (1915), Bouccin (1936c), F. W. Butt-Thompson (1929), H. P. F. Marriott (1899-1900), and N. W. Thomas (1917, 1919) have described secret societies in west Africa. P. A. Arnoux (1913) deals with Ruanda. W. F. P. Burton (1930) and A. L. Cureau (1912) have described secret societies of the Belgian Congo.

AGE-GROUPS

In Negro society, the power of exercising social control advances with age, and we have noted that up to the time of tribal initiation boys and girls are classed as children; after initiation they are soon free to marry and their adult life begins. Instances have been noted in which children of the same initiation school form an age-grade that persists so long as they live. Study of secret societies has indicated that distinctions of age are preserved within the organization, and that certain prerogatives are associated with each age-group. Yet these examples do not touch the most important organizations and functions that are associated with age-groups.

HAMITIC TYPE OF AGE-GRADES

The most specialized type of grading by age and duty is found, not among Negroes, but among the Hamitic Galla and the Hamitized Masai and Nandi. In these tribes, age brings prerogatives of government. There is, however, no decisive evidence to prove that age-grades among Negroes are derived from the Hamitic System. Obviously, the mere grouping of people according to age, and the granting of administrative power to elders, are procedures that would be likely to occur independently in many parts of the world and at different periods. R. H. Lowie (1916, pp. 883-951) has made a comparative study of age-grades in Africa, Melanesia, and among

the Plains Indians, and has demonstrated the important differences of institutions that ethnologists classify under the same generic term.

The Galla system of age-grading as described by E. Cerulli (1932, pp. 167-176) is typical of the Hamitic method of organization. E. Cerulli distinguishes ten *gada*, each of which retains powers of administration during a period of eight years. The working of the scheme is such, that every man arrives at each of the periods for initiation into a new grade exactly forty years after his father had reached it. This is so because five *gada* periods elapse between the *gada* of father and son. It follows, therefore, that since there are ten *gada*, and each *gada* group rules for eight years, a period of eighty years elapses from the rule of a certain *gada* back to the same *gada* again. Membership in a *gada* does not depend on age, but is hereditary, and a boy is placed in the *gada* opposite to his father. The meaning of these statements is explained by Cerulli, who divides a circle into ten equal divisions lettered from A to J.

A description of age-grading for purposes of government in the Nandi tribe has been recorded by A. C. Hollis (1905, pp. 261, 288, 291, 303, 312; 1909, pp. 12, 62, 69, 77-80), who explains that males are divided into boys, warriors, and elders, while females have two age-groups, namely, girls and married women. After this preliminary sex division has been recognized, males are separated into seven cycles, each of which is an *impinda*. A circumcision festival for boys takes place every seven and a half years, and lasts for two years. All males circumcised at the same time belong to the same *impinda*, and since there are seven of these age-cycles the total time of revolution from the first *impinda* to the same again is fifty-three years. In each *impinda* three "fires" are recognized, and members gather round their own "fire," to which members of another "fire" are not admitted. Each "fire" has a distinguishing name such as "big ostrich feathers" or "the young bulls."

The ceremony of transferring the government of the country from one *impinda* to another is the most important rite in the lives of the Nandi, because those who are inaugurated become responsible for the safety of the country and the welfare of the inhabitants. The entire male population is present at the ceremony, at which a white bullock is slaughtered. The meat is eaten by old men, while the young ones cut up the hide to make rings that are worn on the fingers of their right hands. The performance of the ceremony is dependent on the chief medicine-man, who supervises the rite of taking over the government. Men of the warrior grade discard their skin clothing

and accouterments, which are replaced by the fur garments worn by old men who constitute the governing class.

A similar system exists among the Waikoma of Tanganyika Territory (E. C. Baker, 1927, No. 151). At one time, government was a dictatorship vested in war-doctors, wizards, and rain-makers, whose authority was upheld by the age-grades. Circumcision gave the first right of entry into age-grades, and among the Waikoma the grades, which numbered twelve, were divided into three groups. The first age-grade of each group ruled for eight years, at the end of which time it was driven out by the succeeding grade, who made a sham fight for acquisition of office. "When each of the first grades of the three groups had ruled, the sons of members of the first grade came into power, and in due course they were succeeded by the sons of members of the second grade, and then by those of the third grade, after which the grandsons of the three first grades ruled in turn. These men were succeeded by the great-grandsons of members of the original grades, which completed the cycle, and when their terms of office were finished their sons succeeded them and took the names of the original grades. Each grade ruled for eight years and therefore the cycle, which is continuous, is completed in ninety-six years."

These examples illustrate a legitimate use of the term age-grade, and no doubt can exist with regard to the historical connection of the instances quoted, for the complex systems are so similar in structure and function that the resemblances could hardly be fortuitous. Reference has been made to somewhat similar series of grading and periodical initiation among some Nilotes. The extent to which the age-grading system has been adopted independently and the part which diffusion has played is difficult to determine, but no doubt the system of the Wachagga should be included with this genuine group of gradings. The Chagga system demands that circumcised youths join a group called a *rika*, that is, a circumcision-age to which a specific name is given. The institution and the names are derived from the Masai, and the names of the *rikas* are in many instances identical with those of the Masai (C. K. Dundas, 1924, p. 209). There has apparently been a transfer of custom from the Half-Hamitic Masai to the Chagga, who are northeastern Bantu.

NEGRO TYPES OF AGE-GRADES

The following instances are typical of the kind of age-grading which functions among Negroes. In the Ba-ila tribe all men and women born in the same year, who have gone through tribal initiation ceremonies at the same time, apply to one another a term

musama, which designates a primary age-grade. As a secondary form of age-grade, a person associates with all people who belong to his or her parental age-grade, and these persons form a group called *musela*. Usually the Ba-ila are polite, and ridicule is forbidden, but a joking relationship exists between two persons of the same *musama* or the same *musela*. Previous mention has been made of a joking relationship between certain relatives and clan members, but this instance of exceptional familiarity between members of the same age-grade is a new aspect of the joking practice (Smith and Dale, 1920, vol. 1, p. 308).

The Ba-ila system has not the appearance of an organization which is derived from the Hamitic age-grading system, although the idea of basing the age-grade on the age and time of tribal initiation is fundamental to both the Hamitic and the Ba-ila (Bantu) systems. Age-grading among the Ba-ila is not the basis of government and military service, as among the Masai and the Nandi.

According to P. A. Talbot there exist in Southern Nigeria age-classes, comprising those persons born within certain periods, usually extending over two or three years but sometimes longer. Separate grades for males and females exist, and each of these forms a club whose members try minor cases or quarrels occurring among themselves. Age-grades vary in number from seven to twelve according to tribe. A first grade may include children whose ages range from four to seven years; more often, however, the first grade includes those who have reached puberty, have had their teeth filed, the cicatrization marks made, and circumcision performed. Usually special rites are observed when the first age-grade is entered. Frequently an age-grade chooses a president from men of an older grade.

The age-classes form an essential link in the chain of government and without them the administration could scarcely be carried on even at the present day. One of the chief prerogatives of this age-grade organization used to be the selection of those who were to go to war, and those who were either too old or too young for fighting. Every member of the community passes automatically through the consecutive groups, which appear to be a very primitive and ancient organization. The custom of purchasing membership of a senior grade in order to avoid the work relegated to lower grades is probably a comparatively late innovation.

Talbot (1926, vol. 3, pp. 543-555) illustrates the operation of these general principles by giving instances from the Yoruba, Bini, Ibo, Ido, Ijaw, and Ibibio tribes. If attention is directed to the

similarity of basic ideas, namely, ages and their respective duties, one may recognize a similarity in all age-grading systems. But the generic concept is of such an elementary kind that it would be likely to recur at many places and in various periods. In all society, the tendency is for age to bring increased dignity and social prerogative.

In the Munshi (Tiv) tribe, the whole social structure is based on age-grades (*kwagh*). Boys born in the same year are members of the same *kwagh*, and all are circumcised at the same time. Members pledge themselves to give mutual help in resisting anti-social magic, in performing farm work, and in preserving marriage regulations (R. M. Downes, 1933). H. L. M. Butcher (1935) has given a detailed description of the functioning of age-grades among the Edo people of Nigeria.

Hamitic age-gradings of the Galla, Masai, and Nandi are primary factors in social organization and control. But, generally speaking, the age-grades of Negroes are less specific, less complicated, and not so fundamental to military organization as are the pure Hamitic forms of age-groupings, as seen among the Galla and the Half-Hamites.

LAW

The student of African law among Negroes, Hamites, and Half-Hamites should bear in mind three main cultural divisions: purely pastoral tribes, tribes whose social organization is based on agriculture, and tribes which have a mixed pastoral and agricultural background.

For each of these divisions, research should take into consideration historical factors, especially Mohammedan and European influences. Law must be considered in close relationship to the family structure and kinship, village organization and chieftainship, and religion and magic. Such an outline will give legal codes their true cultural setting, and at the same time will explain the mechanisms of the law. The main points for study are the theory behind the law, the social and psychological sanctions of law, and the system of administration. One must bear in mind that, apart from Mohammedan and European influences, laws are not statutory; the absence of writing has prevented the recording of principles and precedents. These exist, however, in the minds of chiefs, tribal elders, and heads of families. Considerable latitude of judgment exists, but decisions are in accord with tribal customs, social attitudes, and moral concepts. At the end of this section on law, references are given to concrete studies of African law, and to the social and psychological basis of law.

RELIGION AND LAW

The religious concepts which enter into the legal systems of African Negroes are the sacred oath, trial by ordeal, and ancestor worship. The oath is a form of appeal to the judgment of a spiritual power which is higher than human agency. "Among the Jukun the king's body is believed to be charged with a divine dynamism which communicates itself to everything he touches. The most potent oath, therefore, that a Jukun can take is to swear by the mat, couch, or slippers of the king. In taking an oath the litigant or accused is required to place his hand on the mat or couch. If he has sworn falsely it is believed that he will be struck dead as though killed by an electric shock." (Meek, 1931a, p. 27.)

Test of guilt by drinking poison is a form of legal procedure from Sierra Leone, through west Africa, over a great part of the Congo region, and into Angola. Usually the cup is prepared from sasswood, and at a public trial a medicine-man administers the draft to the accused persons. Those who are guilty succumb, while the innocent persons vomit. The spiritual backing of this procedure is seen in the use of ritual in preparing the cup, the form of oath taken before drinking, and the part played by the medicine-man who is acting as an intermediary between the accused persons and judgment of a non-human kind. The procedure of the Ba-ila illustrates the sacred character of the poison ordeal. The hand of a young child must gather the drug for the poison, and the feet of the child must not be allowed to touch the ground as he carries the drug back to the village. (C. Gouldsbury and H. Sheane, 1911, p. 61).

A basic idea in trial by ordeal is the belief that an innocent person will escape the harmful effects of any tests he is asked to perform. The accused may submit to boring of his tongue with a feather, swallowing a fish-hook, licking a red-hot hoe, eating hot rice, carrying a hot iron ring, or swimming a river that is infested with crocodiles, but innocence will give immunity.

Trial of accused persons and of litigants by proxy is a common procedure, and each individual is required to substitute for his own person a dog or a chicken. The animals are poisoned, and the guilt of the owners is determined by the effect of the poison on their respective animals. In former days, wealthy men were allowed to substitute slaves who submitted themselves to the tests in place of their masters. The details of procedure and the geographical distributions of all forms of African trial by ordeal have been described and mapped by C. Wiedemann (1909).

The Negro high gods are not so important as ancestral spirits in relation to conduct and legal procedure. Nzambi, Kalunga, Suku, and other deities who are credited with creative power are too remote to be closely concerned with the affairs of men. The high gods are often thought to be benevolent, yet jealous if they do not receive sacrifices; but they are not concerned with the issuing of commands; they do not define right and wrong, or promise punishments or rewards in a spirit world.

Deism is, however, only one aspect of religion, and consideration of ancestor worship shows a positive connection between religious concepts and law. The gods may be otiose, but the ancestors are powerful in the lives of the living, whose tenure of land, adultery, and incest are matters of deep concern to dead relatives. If these are offended, the whole community, not only individual culprits, will suffer.

The importance of religious sanction to conduct and legal procedure should not, however, be over-emphasized. Conduct, custom, and law have in many tribes a strong social sanction; everyone knows what is right or wrong according to the codes, but the religious sanction, though perhaps subconscious, is not always apparent. Family life, the power of suggestion from elders, and the direct training of initiation, appear to establish social attitudes and standards in which the demands of gods and ancestors are not stressed though they operate indirectly. See Rattray (1929, pp. 372-378).

An extremely useful summary of the foregoing controls and attitudes has been provided by G. Wilson (1936). The main body of customs may be divided as follows by distinguishing between the different factors which provide sanctions for conformity to law: (1) manners, sanctioned by public approval and disapproval; (2) morality, sanctioned by religion; (3) common policy, sanctioned by rewards and punishments that make honesty the best policy; (4) law, sanctioned by institutionalized inquiry followed by compulsion or punishment. The sanctions are not separated but are combined in various ways to form social controls. Consult F. Eggan (1937, pp. 341-373).

LAW AND CHIEFTAINSHIP

Responsibility for the conduct of individuals and for administration of the law is intimately connected with family and clan organization, with the village unit, and with the kingdom. In Negro society, a king or supreme chief is regarded as the spiritual, legal, and economic head of the tribe by virtue of his ancestry, position, and sacred attributes. But more active in actual administration

and legal procedure is the village headman, who tries all offenders and hears all the litigation of the village over which he rules. Yet his judgments are under the veto of the king, and appellants have a right to transfer their cases from the village headman to the king.

On account of his sacredness, a king has many prerogatives, including absolute power over the lives of his subjects, their property, their military service, and taxation. These wide powers leave a general impression of despotism, for the king's decisions are final; yet a chief or king has definite obligations which often include the performance of religious ceremonies by which he alone can obtain the blessing of royal ancestors. A ruler also has definite economic obligations whose nature has been explained by I. Schapera (1928, p. 175) in his description of chieftainship in south Africa.

"At the same time all this accumulation of wealth by the chief was really made on behalf of the tribe. The chief gave out his cattle to the poorer members of the tribe to herd for him and allowed them to use the milk." Instances of extreme despotism and wanton cruelty are not unknown in the history of Negro kingdoms, but these do not represent the general relationship between a supreme ruler and his subjects.

In addition to the juridical functions of chiefs and kings, law is administered through a regular procedure of trial, including pleadings, questioning of the accuser and the accused, and the examination of witnesses. Among the Ovimbundu, an appellant who states his case is *ombile*, the defendant is *ovilue*, and a witness is *uvangi*. False witness was at one time punishable by fines and flogging. *Ukuenje welombe*, a king's messenger, was responsible for witnessing the execution of sentences passed in the king's court, and the appointment of kings' executioners has been a common Negro custom. But in many tribes execution of a sentence was left in the hands of near relatives, who, in case of avenging a murder, were entitled to use the kind of weapon that had been employed to commit the crime.

PERSONAL AND COMMUNAL RESPONSIBILITY

An important point to consider is the recognition of intentional and unintentional offences in different regions. In some tribes no distinction is made; but instances of sanctuary occur, and an offender could take refuge at a shrine, in a chief's hut, or at some other place which gave temporary immunity until the charges were investigated (C. M. Doke, 1931c, p. 73). Allowing time for agitation to subside is an important point in Negro procedure, and an offender

usually absconds, leaving his chief and relatives to negotiate. With the help of clansmen, he will ultimately pay a fine on account of his misconduct, for example, adultery, for which he might have been killed by an aggrieved husband, who would have been within his legal rights.

The subject of responsibility for misconduct is one that touches the core of family and clan organization. In family life, a maternal uncle may be responsible for the conduct of his sister's children. He may pay the fines imposed on them, but, reciprocally, they will work to discharge his obligations. A husband is responsible for the conduct of his wife, his dependent children, and his slaves. For these, he will have to pay fines; then he himself administers punishment, which is often a flogging.

Punishment imposed by a regular court was apt to recognize a principle of communal responsibility. Therefore, a death sentence might be extended to several near relatives, or a whole family might be sold into slavery because of the offence of one member.

Trial by ordeal in which a slave was substituted for his master has been mentioned, and this proxy was sometimes extended to such punishments as flogging and mutilation. The willingness of commoners to perjure themselves and to suffer for their social superiors has sometimes proved an obstacle to European administration. Another basic point in Negro law is the correlation between the magnitude of an offence and the social standing of the aggrieved person. Theft or adultery against a king was always far more serious than the same offence against a commoner.

The codes of punishment which are characteristic of Negro law have several common traits. Death, banishment, mutilation, flogging, and fines are frequently mentioned in descriptions of legal procedure. Selling delinquents into slavery was common, but prolonged imprisonment was never a factor of the Negro penal code. Imprisonment of debtors and malefactors in a dungeon has been common under Mohammedan influence; for example, the dungeons of Kano were crowded at the time of the British occupation in 1903, but usually under Negro law an offender is tried and punished as soon as possible.

These general principles relating to the influence of religion and social organization on law can now be illustrated by examining legal procedure in its bearing on inheritance, succession, ownership of land, adultery, theft, and murder. But while examining the data in this way the cautions of B. Malinowski (1932) should be borne in mind,

since obedience to law does not depend entirely on "any wholesale motive like fear of punishment or a general submission to all traditions, but on very complex psychological and social inducements."

LAW OF INHERITANCE

Our previous studies of kinship and of the family showed that two main types of reckoning descent, inheritance, and succession have to be taken into consideration. H. von Baumann (1925, pp. 62-161) has prepared a number of maps showing the distribution of systems that recognize descent by females only, by males only, or by both. The maps indicate the areas of Africa in which inheritance of property and succession to office is the right of a son or brother of the deceased; this system is prevalent on the east side of Africa. Among many Negro tribes, a wife and children inherit no property from the dead father; all bequests are made to a sister's sons. Von Baumann indicates areas in which the Mohammedan system of inheritance and succession has mingled with or actually superseded other codes. The following instances, which are selected from Bantu and Sudanic Negro tribes, illustrate the main principles explained by Von Baumann.

Among the Ovimbundu a husband makes no bequest to his widow or children; property passes to the sons of the sister of the deceased. But a small gift is likely to be made to the widow and her children, since the men who have inherited the property are afraid of being held up to ridicule for their meanness. The oldest brother of the widow has the task of settling any disputes that may arise. Widows are classed with movable property, and they are inherited by brothers of the deceased. In some tribes, the question of inheritance fees arises. This subject has been discussed by J. H. Driberg (Man, 1929, No. 64).

The Ovimbundu recognize the right of a woman to possess property. When a wife is divorced, she removes her domestic utensils to her home. When a wife dies, these small possessions are divided among her sisters.

R. S. Rattray (1932a, vol. 1, p. 271) makes clear that among the Nankanse a married woman may own property independently of her husband. The things she contributed to the home and the articles she has made since marriage are her individual belongings. On her death without issue this private property reverts to her own family. Beads and all things pertaining to women go to her daughters. The live stock owned by a deceased wife may be inherited by her son or by her parents, but never by her husband. In general, the codes of

Negro law dealing with bequest of property recognize the independent ownership of property by women. Often the possessions are insignificant, but the principle is of importance in legal procedure.

Laws of the Ba-ila are complicated in their relation to inheritance, and descent of property is often determined by the combativeness of the legatees. But to prevent quarreling, a testator sometimes nominates the heirs before his death. Widows are inherited by brothers of the deceased. A chief may nominate his successor, but if he fails to do so a man is elected by village elders (Smith and Dale, 1920, vol. 1, pp. 303-305, 390). Normally, among the Ovimbundu a king or village chief is succeeded by the oldest son of his principal wife, but if the youth is not suitable another son is chosen.

Describing inheritance of property among the Bakongo, J. H. Weeks (1914, p. 102) shows that the legal code is one which is common in Negro tribes. He states that property is bequeathed from a dead man to the oldest son of the deceased's oldest sister. A wife and her children do not inherit from a father, but though neglected in this way they are the beneficiaries of their maternal uncle. Maps prepared by H. von Baumann (1925) indicate the wide distribution of this kind of inheritance throughout the Congo region and Angola.

Laws of inheritance described by M. Delafosse (1931, p. 190) indicate differences in local procedure. If a husband predeceases his wives, they are returned to their own kin, who then refund to the heir the value of the dowries which were paid for these women. The heir of a dead man becomes the legal father of the deceased's children and the husband of his wives, but some local customs forbid the heir to have sexual relations with these women. Usually the heir restores the widows to their kindred in consideration of compensation, but the women may work for him, and, if they remarry, the dowries are given to the man who inherited them. Delafosse remarks that from the legal point of view no widows or orphans exist, since these are inherited and put to work, or they are restored to their kindred who make compensation.

LAW AND LAND OWNERSHIP

When describing the establishment of a new village site in the territory of the Ovimbundu tribe, I called attention to the distribution of land by a king or chief to the heads of families. Retention depended on continuous cultivation, but when a man was going away on a caravan journey—and this frequently happened—another man might cultivate the land of the absentee and retain the produce.

Disputes arising from this arrangement were settled by the village headman.

In a polygynous family of the Ovimbundu, land is divided among the wives, each of whom is responsible for cultivating her own plot. Each wife is entitled to a part of the produce, which must be sufficient to buy her clothes, ornaments, and palm oil. Failure of the husband to give such a part of the produce justifies the wife in claiming a divorce. At the present day each unmarried girl who is living at home has a portion of land, the produce of which she sells solely for her own benefit. The money obtained is spent on cloth, palm oil, and trinkets. These usages are commonly found among land-owning Negroes.

Reverence for dead ancestors in their capacity of land owners is the determining principle of land ownership and distribution. The chief who distributes land is acting in a priestly capacity, and his concessions are equitable loans, not absolute gifts.

In this section, chap. VI, the religious sanction of law will be more fully described.

LAW OF ADULTERY

Consideration of laws relating to the punishment of adultery calls attention to the further influence of religious belief on legal codes. R. S. Rattray (1923, p. 50) states that the offence of adultery is greatly aggravated if committed with a pregnant woman, because the two *ntoro* (male elements) meeting in the womb may cause death of the child. If, however, the husband and the adulterer are of the same *ntoro* the offence is less serious. This view of adultery is a natural corollary of Ashanti beliefs in reincarnation and the part played by male and female in an act of conception.

Adultery of a wife is generally regarded as a danger to her husband, especially if he is away hunting or on a journey. Misconduct of a wife may cause her husband to injure himself in his work or make him incapable as an artisan. These are instances of magical beliefs of a sympathetic kind that are associated with adultery, and to these may be added the difficult parturition of an adulterous woman, who can secure delivery only by a full confession. E. Torday (1929b, p. 285) quotes instances of widows who have to appease the spirits of dead husbands before remarriage. This is done in deference to the dead, and to avoid even a semblance of adultery. Widows who remarry and have offspring are regarded as producers of children for their dead husbands, and not for their living spouses.

H. Labouret (1931, p. 377) points out instances in which adultery is more than a civil offence. Spouses are placed under the protection of a family deity, and infidelity of either husband or wife angers the ancestral spirits, who retaliate with a curse of barrenness.

Before European intervention punishments for adultery were severe, but at present the tendency is for compensation to be made by payment to the aggrieved husband. E. Torday (1929b, pp. 255-290) has adduced evidence from many Bantu tribes to show the cruelty of punishments that were inflicted on male and female offenders. Former punishments included burning alive, burial while alive, and mutilations; the severity of the punishment increased with the social position of the seduced woman.

Among the Ovimbundu, the penalty for adultery was the same as for murder. The culprit's neck was fastened in a yoke of wood and his feet hardly touched the ground until a fine was paid. If he was unable to pay the fine, the husband of the seduced woman had the right to kill him. An adulterous woman usually escaped with a chastisement. At the present time, an aggrieved husband has the right of deciding whether he will retain his wife or allow her to go to her seducer after the compensation has been paid. The disposal of the children of an adulteress depends on their ages; all children under three years of age go with their mother.

R. S. Rattray (1927a, pp. 86, 93, 98) has described the discrimination made by the Ashanti between adultery with a woman of the commoners and adultery with the wife of a king. A wronged king demanded a death penalty for both culprits, their parents, and their maternal uncles, which was a drastic application of the principle of communal responsibility. A series of tortures was inflicted on the adulterer by the king's executioner.

The sacred character of kings and chiefs, and not merely their high social position, accounts for the severity of punishments inflicted on adulterers with the royal wives. The offence, which is normally a violation of property rights, becomes a dangerous sacrilege when perpetrated in the royal household. Laws relating to adultery among the Ovimbundu—and these laws are typical of those prevailing in Bantu tribes—demanded castration of a seducer of the wife of a king, but the death penalty was not always demanded. A culprit sometimes escaped emasculation by payment of a heavy fine, but he himself along with his sisters and her sons became slaves of the king. This was equivalent to confiscation of all inheritable property since bequest is in the female line to a sister's sons.

LAWS OF THEFT

Negro laws relating to theft lay particular stress on the responsibility of the head of a family for delinquencies of the members. Theft is regarded as an offence against an individual who must be compensated by the thief or by his kindred. Punishment takes the form of restitution of the stolen articles, or perhaps repayment of twice or thrice their value. Flogging as a punishment for theft was common before European control; so also were mutilations. Penalties were usually graded for first, second, and third offences; the first theft was sometimes punished by flogging, the second by a light mutilation such as lopping fingers, and the third incurred extreme mutilation such as loss of hands and feet. The gravity of the offence increased with the social status of the person who was robbed.

Laws of the Ovimbundu illustrate a sense of family responsibility. A woman who is caught in the act of stealing from a garden is taken to her husband, who beats her and makes restitution. A child who steals is beaten by his maternal uncle or by his father. The owner of a slave takes responsibility for the delinquencies of his servant, pays the fines incurred, then flogs the culprit. K. G. Lindblom (1916, pp. 170-172) mentions a peculiar form of family punishment whereby parents place curses on delinquent children, who have to show signs of reform before the curse is ceremonially removed.

The Bakongo have laws for punishing a receiver of stolen goods who has acted wittingly, and there is a law recognizing a form of theft that is dangerous to the community because of offence to ancestors. A culprit who takes articles from a grave is beheaded and his body is thrown into the bush. Such was the ancient law before European control (J. H. Weeks, 1914, p. 65).

Among the Temne of Sierra Leone, a thief might be flogged, sold into slavery, or his hands might be cut off. The more severe punishments were given to habitual offenders. First offences were punished by confinement in the stocks and repayment of treble the value of the stolen goods (N. W. Thomas, 1916, Part I, p. 156).

LAW OF HOMICIDE

Study of the punishment of murderers brings out the following points of importance involved in social attitudes toward this offence. Murder upsets the equilibrium of social groups and restoration has to be made. Communal responsibility of the family and the clan of the murderer is involved. Private revenge is usually condoned, and blood-revenge of this kind occurs when a murderer is unable to

hide pending settlement of the indemnity. After payment of indemnity, ceremonial purging of the murderer may be necessary in order to appease the ghost of the victim. The religious element is further shown by rites of purification for the executioner, who is thus protected against the ghost of the criminal.

The Ovimbundu prescribed severe penalties for murder, the commonest of which was fixing the culprit's head in a triangle of wood and suspending him with his feet barely touching the ground. Sometimes a murderer's head was placed through a hole in the wooden door of his hut so that he faced the street. If the murderer could not pay the blood-money and his kindred were unable to meet the obligation, he was executed. The sentence might be carried out by *ukuenje welombe*, the king's servant, or relatives of the victim might be allowed to kill the murderer with the weapon he had used for his crime. If a man murdered one of the royal family, he was executed, and in addition to this his kindred had to pay the blood-money. Payment of compensation in addition to other punishment is common in Negro law. When dealing with adultery, theft, and murder, the law aims at imposing physical punishment, making compensation to the aggrieved person, and adjusting the claims of family and clan groups.

To test the guilt of an accused murderer, the Ovimbundu used the poison cup. This practice is forbidden by Portuguese law, but a mild form of ordeal is substituted. Accuser and accused sit opposite a medicine-man, who holds two potatoes, one of which is poisoned but not sufficiently to cause death. The poisoned potato causes swelling of the mouth, the man is afraid, and confesses if guilty. Combined with the ordeal is a form of oath. The accuser says, "If this man is not the murderer this potato will be poison for me, but if he is the murderer this potato will be food for me." The accused makes a similar statement.

In the Bakongo tribe, a family was responsible for finding and handing over for trial any member of the family who was guilty of murder. If found guilty by the village chief, the murderer was made drunk with palm wine and executed in the market place, after which his body was destroyed by fire so that his ghost could not haunt the executioners. A family that failed to deliver a kinsman who was accused of murder was heavily fined (H. J. Weeks, 1914, p. 63). Accidental homicide was not distinguished from an intentional act. The law went further. If a Bakongo murderer had been known as dangerous, and if a warning had been given to his kin, a very

heavy fine was imposed on his family, but the murderer was not punished if he was known to be of defective intellect. The mentally deficient who had homicidal tendencies disappeared, presumably by poison, and the responsibility of the family no doubt induced them to make a quiet removal of a potential murderer (J. H. Weeks, *ibid.*).

C. M. Doke (1931c, p. 74) states that among the Lambas a person who has provoked a suicide by wrongful accusation, or by insistent demand for payment of a debt is held responsible for the suicide.

Although the instances quoted indicate that a death penalty is sometimes inflicted for murder, the general evidence stresses the restoration of equilibrium by compensation of the victim's family and clan. The Ba-ila say that "to kill a person because he has killed another is ridiculous; why make a bigger hole in the community? Fine him, yes, but unless he is a veritable danger to the others, let him live." Killing a human being is regarded as an offence against the clan of the victim, against the communal god, against the victim's ghost, and against the hidden forces of nature (Smith and Dale, 1920, vol. 1, p. 413).

The Akamba, Akikuyu, and Atheraka, who are Bantu tribes of northeast Africa, have laws that further illustrate the principles mentioned (C. K. Dundas, 1915, pp. 234-305). A religious factor in jurisprudence is shown by the use of oaths and ordeals, and compensation implies more than payment for injury done, for a rite of purification is performed after every instance of personal violence. The elders sacrifice a goat and attach a piece of the skin to the injured part of the person who was attacked.

In homicide, provocation, self-defence, and unintentional acts are not accepted as extenuating circumstances; therefore, blood-money is always demanded. Kikuyu law states that a man may refuse to accept blood-money and may, instead of compensation, kill the murderer of his kinsman. The amount of compensation required for homicide is less if the murderer has killed his own kinsman. For example, a man who kills his father has to pay to his father's brothers, or to their sons, half the usual compensation for murder. The murderer took a life that was closely bound to his own kinship group; therefore, equilibrium is more easily restored than would be the case if the victim were a stranger from outside the assassin's kindred. This instance illustrates one of the most important aspects of primitive law.

A murderer visits all his clansmen and begs for contributions toward the blood-money. "To refuse such assistance is regarded as

shameful, and equivalent of a denial of kinship." Clansmen contribute to help one of their members, but reciprocally they share in blood-money paid for the murder of one of their clan.

Among the Akikuyu, purification of a homicide consists of blunting the weapon used and burying it, of washing the offender, and of shaving his head. Atheraka law demands that a murderer shall kill a goat. Elders make small cuts all over the body of the homicide and into these incisions the blood of the sacrificed animal is smeared. "These rites are intended for purification and if omitted the direst consequences ensue, for the murderer will continue to slay friends and foes alike." The elders officiate at a peace-making ceremony between the murderer and relatives of his victim.

Instances of law relating to homicide among the Timne-speaking tribes of Sierra Leone usually show a principle of compensation by restoring the numerical equilibrium of social groups. But in one area no compensation could be accepted for a life, and, if a murderer escaped, his relatives would be attacked by the kindred of the murdered man. In another region, a slave had to be given to take the place of the murdered man, and this slave became the husband of the victim's widow. The slave could not inherit property; he was regarded as a numerical equalization. The crime was regarded as a social injury and not as a personal affront. In districts where compensation was accepted for murder, and restitution was not made, the murderer was publicly executed by a brother of the victim. A man who murdered his wife had to give a female of his own kindred to the relatives of his wife, and sometimes a boy was given in this way as compensation for a man who had been murdered (N. W. Thomas, 1916, Part I, pp. 161, 164).

Laws relating to homicide among the Yoruba of Nigeria bring out clearly the general nature of Negro concepts respecting compensation. If a master killed his own slave, no crime was committed; the murderer had merely injured himself, and there was no moral turpitude and no social wrong. But if a free man murdered a slave of another free man, the murderer had to pay money or give two slaves in place of the one killed. An owner of slaves usually had the right of substituting a slave to take a punishment that he himself had incurred (A. K. Ajisafe, 1924, pp. 28, 38).

J. H. Driberg (1928, pp. 63-72) has pointed out that "a pastoral culture and one based on husbandry are so inherently different that they could not safely be brought within one survey, though doubtless much of what is true of one is also true of the other."

A glance at some of the laws of Nilotic Negroes and Half-Hamites shows certain basic similarities between the legal codes of these tribes and those of the Bantu and Sudanic Negroes. But among pastoral tribes the ownership of cattle is fundamental in all questions of fines and compensations, and even in Bantu tribes who have become herdsmen, though still agriculturalists, cattle play the most important part in legal procedure. Maclean (1858) states that "the stealing of live stock is the most important law case in Kafir-land."

Laws of the Dinka indicate the importance of cattle as compensation for assault or murder. Payment varies from a hundred head of cattle in case of homicide to payment of a goat to recompense a minor injury. Other points of law resemble those of Bantu and Sudanic Negroes. Communal responsibility for an offense is fully recognized, and the family or clan of the delinquent must pay the penalty. Murder and theft are a violation of private rights and a disturbance of social equilibrium. An oath, taken on a sacred spear before testifying, is important in legal procedure (H. O'Sullivan, 1910, pp. 171-191).

Among the Kisongo Masai of Tanganyika Territory, all the cattle of a murderer are taken by relatives of the deceased, but some of the animals, for example, cows that are about to calve, are returned after the tribal elders have judged the case. Sometimes private revenge operates after two years or more. Relatives of the murdered man raid the kraal of the murderer by night, and the homicide may be killed without a trial. For every head of cattle taken by a thief, five have to be returned. For personal assault, graded payments are arranged; these vary from one ewe to twenty-nine head of cattle, according to the injuries of the victim (R. A. J. Maguire, 1928-29, pp. 12-18).

Didinga law shows that "all transgressions, whether compensated for by live stock or not, must also be purged by sacrifice." Unintentional homicide is settled by compensation. If the murder is intentional, the offender is killed, unless he can escape. Execution of a murderer is not a legal punishment, but an act of retaliation, which is condoned. If a homicide can hide temporarily his family will arrange for compensation, and after the matter is settled he may safely return, although the compensation has not actually been paid. Theft is usually punished by flogging the culprit and making him return the stolen articles. Trial by ordeal is practiced (J. H. Driberg, 1925, pp. 153-175).

SUMMARY AND READING

The foregoing points and others of importance have been touched upon by J. H. Driberg (1934, pp. 230-231) in his account of the basic concepts of Negro law. He discusses the privileges of restricted groups, such as the family, the clan, or the tribe, and remarks on the fundamental differences between European and African legal concepts. The points elucidated are those of legal status, penalties, motive and intention, the displeasure of ancestors (religious sanctions), ridicule and ostracism (satirical songs). An appendix summarizes the aspects of family, clan, tribal, and associational law. Driberg's article is a summary of the points I have tried to establish.

Our examples of social control have indicated that secret societies, age-grades, and the operation of customary laws are closely coordinated social controls. These controls, aided by religious beliefs and magical rites, have unified tribal life by establishing legal sanctions.

Working to some extent in opposition to these institutions are the disharmonic factors of warfare and slavery, which will now be considered. These institutions tend to break down cultural patterns, to disperse physical types and languages, and, by a process of diffusion, to change the social and economic structure. We have in society, processes analogous to those with which a biologist is familiar, namely, anabolism (building up) and katabolism (a breaking down).

For a broad approach to the subject of Negro law, the following works are important. R. R. Marett (1936) has discussed the nature of sanctions in primitive law. W. Seagle (1937) should be read for a summary and criticism of the views of A. R. Radcliffe Brown and B. Malinowski. A. S. Diamond (1936), J. H. Driberg (1934) on "The African Conception of Law," H. I. Hogbin (1934), and B. Malinowski (1932) are important. R. R. Marett's "Anthropology," (1911, pp. 181-208) gives a brief helpful summary of legal attitudes of primitive people. Malinowski discusses the views of L. T. Hobhouse, W. H. R. Rivers, E. S. Hartland, E. Durkheim, and A. R. Radcliffe Brown on the subject of primitive law. C. Meinhof (1908, pp. 159-164) describes "The Codification of Native Law in the German Colonies." Two comprehensive works in German are E. Schultz-Ewerth and L. Adam (1930) and S. R. Steinmetz (1903).

The following works are important contributions to the study of African law: B. Ankermann (1929), J. B. Danquah (1928), J. S. Fenton (1932), B. Gutmann (1925, 1926), C. K. Meek (1934), R. S. Rattray (1929), P. P. Schumacher (1912), W. G. Stafford (1935), and G. Wilson (1937). These works sample Negro law in a wide area.

V. SOCIAL CONFLICTS

A review of warfare and slavery as aspects of social life shows an interrelationship of cultural traits. Warfare has resulted in the capture of slaves whose reception into a tribe tends to change the economic organization. Warfare and head-hunting are to some extent kindred activities, but a fundamental distinction exists between a permanent military organization, such as that developed by the Zulu, and the intermittent head-hunting raids of tribes on the Bauchi plateau of Nigeria. Cannibalism may be a factor associated with head-hunting and warfare, though this is not invariably so. The association of cannibalism, slavery, and human sacrifice is somewhat close, since slaves and captives were the persons most frequently sacrificed at ceremonies for inaugurating a new king and performing funeral rites at his death.

The object of this chapter is to show the effects of warfare and slavery on social organization, tribal migrations, and diffusion of cultural elements.

WARFARE AND HEAD-HUNTING

The subject of warfare falls naturally into two divisions: the one dealing with accouterments and tactics, and the other with historical sequences, cultural change, economic conditions, and magical aids.

WEAPONS AND TACTICS

Among numerous methods of defence, the most important are concerned with the protection of villages. These may secure immunity from attack because of their inaccessible position in high, rugged hills. Typical examples of such defence are to be seen in the country of the Vasele in the hinterland of Novo Redondo, Angola. The small clusters of huts are screened among masses of rocks which make them difficult to locate and more difficult to reach (Fig. 80, *b*). The same may be said of the villages of the Angas tribe in eastern Nigeria; these small communities can be reached only after a long climb. Each village is protected by a stone wall.

This type of defence is important as a cultural determinant. Isolation leads to the preservation of archaic forms of speech and the survival of customs that have become obsolete in surrounding regions which are open to cultural contacts and changes. Villages of the Bauchi plateau have long resisted the influences of Europeans and Mohammedans.

The economic results of defensive village structure in mountainous regions are well seen in relation to agriculture. The Angas terrace their hillsides for the growth of a species of millet that thrives on impoverished soil deficient in moisture. The Vasele descend from their hills to cultivate small gardens in the more fertile valleys. In this way, economic habits are determined by a primary necessity for self-defence by isolation.

Villages on plains are sometimes defended by high palisades in which heavy wooden doors are built (Fig. 80, *a*), and in some regions approach is made dangerous by the planting of poisoned, pointed stakes with their sharp ends slightly above ground level. Walled cities, such as Kano and Katsina in Nigeria, are not typical of Negro defence; in common with the general architecture of the western Sudan, mural defences have their origin in the styles of north Africa. An existing example of protection by moat and earthwork, now overgrown with dense vegetation, may be seen near the city of Benin, but this protection is occasional rather than typical.

Miscellaneous methods of defence include signaling with smoke. The Nuba of southern Kordofan warn the scattered hillside villages in this way, but the method is not general (J. W. Sagar, 1922, p. 155). Drum signaling as a warning and defence against surprise attack was general throughout Negro Africa before European control. Personal defence by the use of magical preparations for smearing on the body, and the wearing of charms to give invulnerability, are extremely common practices.

The chief defensive weapons are shields of leather, hide, wood, or wicker in great variety. Each locality in which shields are used has a type or types that are readily distinguishable (P. Schebesta and G. Höltker, 1923-24, 1925; Storrs-Fox, 1930). The Masai and Nandi make shields of prepared hide from which the hair has been removed. Zulu shields are of rawhide; painting of shields among the Half-Hamites, and the colors of the hide among the Zulu, indicate military units and age-grades. The finest wicker shields, which are remarkably well plaited, are made in the northeast Congo region. Among wooden shields, those of the Buduma are distinguished by their great size, wide curvature to protect the body, and the lightness of ambatch wood from which they are made. The parrying bow of the Dinka is a singular weapon with a limited distribution (G. Schweinfurth, 1875, Plate I, Fig. 16).



a



b

FIG. 80. Village defence. *a.* Door in palisade, Ovimbundu, Ngalangi.
b. Strategic site on hill-top, Vasele, Angola.

Use of protective armor for men and horses is local. The history of chain mail and its probable origin in Persia are the subjects of an article by B. Laufer (1913-14). Field Museum possesses a cuirass of crocodile skin from the Batanga coast of the Cameroons (Catalogue No. 175394). Berom horsemen of the Bauchi plateau, Nigeria, wear greaves of iron on their shins. But the employment of body armor of any kind in Negro tribes is exceptional.

The bows and arrows of Africa have formed the subject of a monograph by L. S. B. Leakey (1926). Bows vary greatly in length from three to six feet; they may be strung with thin strips of twisted hide or with rattan. The methods of knotting and forming loops for passing over the ends of the stave are various, and the stave itself may be flat or round in cross section. Quivers are constructed from hide, thin sheets of bark, or from the stems of bamboo.

The shafts of arrows are often made from strong hollow reeds into which iron arrowheads are tanged and bound; or the arrow-shaft may be a solid piece of wood onto which the iron arrowhead is socketed. Feathering of arrows is usual, but not universal. The technique of feathering shows many ways of splitting and binding the feathers to the arrow-shaft.

Iron arrow-points made by Negro blacksmiths are now general, though some Bushmen still use bone points. The methods of releasing the arrow in Africa and other parts of the world have been described by R. B. Dixon (1928).

Use of a poison for arrow-tips is common among Negroes, but many tribes, for example, the Ovimbundu and the Vachokwe of Angola, do not poison their arrows. The Munshi of the Cameroons are supplied with arrow poison by their medicine-men, who make the mixture from crushed heads of snakes mixed with *Strophanthus* seeds. During the preparation a spell is uttered to curse the enemy.

The Konkomba and other tribes of northern Togoland either treat their arrows with poison which is thickly smeared on the points, or they leave the arrow-tips stuck in a putrid carcass. A. W. Cardinall (1927a, p. 119) states that in the Northern Territories of the Gold Coast tribesmen collect *Strophanthus* seeds at the beginning of the first rains. Young men erect grass shelters away from the compounds where they live, and for two days no person is allowed to approach the secret place where the poison is brewed. A sacrifice of fowls is made during this rite, and prohibitions are observed. No man who is concerned with making the poison may have intercourse

with a woman, and wives are not permitted to bring food to their men who are in the sacred retreat.

Further information on the poisoning of arrows is given by I. C. Hall and R. W. Whitehead (1927) and H. Neuville (1916). The types of bows and arrows and their distribution have been described by L. Frobenius (1932), L. F. Mainguard (1932), F. Ratzel (1891), and K. Weule (1899).

The magical element that enters into warfare is mentioned by C. K. Meek (1931a, p. 305) who describes preparations made by the



FIG. 81. Vakwanyama warriors with tufted spears, bows, and throwing-clubs.

Jukun. Before setting out for war, warriors and their weapons are smeared with the juice from tubers. Some of the warriors carry a species of nut which is supposed to prevent weapons from touching their bodies. Others obtain concoctions that are supposed to make them invisible to the foe.

Missile weapons include throwing-knives, clubs, light assagais (Fig. 81) and slings. The use of slings for throwing-stones is limited to a distribution in the west, north, and northeast of Africa; these areas are shown on the map prepared by K. G. Lindblom (1927c).

Throwing-knives take many forms, each of which has a definite area of distribution. The iron throwing-knife of the Tibbu of Tibesti

is easily distinguished, as are the patterns used near Lake Chad. In the northeast Congo region, peculiar types occur, as they do also among the Fang tribe and the Bushongo. The word Bushongo means "people of the throwing-knife." When used in open country, for example, in the eastern and western Sudan, these weapons were launched at the fetlocks of horses. The types of throwing-knives, the geographical distribution of the different patterns, also the evolution of forms and their generic relationship to throwing-clubs, have formed the subject of several articles (H. Schurtz, 1889; E. S. Thomas, 1925). Light throwing-assagais are sometimes used without shields, as among the Vakwanyama of south Angola, but the Zulu used to fight with both shields and assagais. Chaka converted the assagai from a missile weapon to one used for stabbing. Further information on throwing-knives is given by A. E. Robinson (1935, No. 74), and D. Olderogge (1934, No. 128).

The chief thrusting weapons are spears, swords, knives, and daggers (Joyce and Braunholtz, 1925). The largest of African thrusting-spears are employed by horsemen of Bornu in northeast Nigeria; the butts of the broad-bladed weapons are rested on the stirrups. Long cross-hilted swords and arm-daggers have a wide distribution in Africa north of 15° N. Lat.

Fighting wristlets of iron furnished with formidable spikes are in use among the Mittu, the Acholi, and the Lango of the upper Nile, and specimens of similar type have been dug up in the Bauchi plateau, Nigeria. C. K. Meek (1927, No. 29) has described the use of these weapons in single combats that take the form of wrestling bouts among the Kyanga and the Shanga after harvest. He states that combatants face each other and spar for an opening until one contestant gets a grip and forces his spikes into the back of his opponent. When an opponent is down, he receives a knockout blow on the head that may incapacitate him for months, or even cause death (see also Lindblom, 1927a).

Since the first arrival of Europeans four hundred years ago, African Negroes have been anxious to obtain firearms, and these played an important part as currency during days of trading for slaves. Among the Ovimbundu, a few hunters may be seen with muzzle-loading guns, which they charge with scrap-iron. This type of weapon is used by some natives of the Cameroons for shooting short poisoned spears at elephants. At some of the stores in Nigeria these muzzle-loading weapons, called Dane guns, are on sale. Muzzle-loading guns have occasionally formed part of the equipment of a

Negro army, for example, in Dahomey, but the weapon has never been widely used for military purposes.

MILITARY ORGANIZATIONS

Military organizations of Africa differed in type according to the relationship between military service and social structure. Negro kingdoms of Ashanti, Dahomey, and Nigeria, as well as those of Kongo and Lunda, had military organizations on which these powerful states relied, but the standing armies were small in relation to the total forces that could be raised by calling on all men for service. Permanent war chiefs were appointed, and these were among the highest officials in the land. These west African systems differed radically from those of the Masai and the Zulu. In these tribes, which are Half-Hamitic and Bantu Negro, respectively, the military systems demanded the full-time employment of all men up to the age of forty years. The armies ranged over wide territories, they were aggressive and predatory at all times, and the military organizations determined the nature of the social and economic structures.

The military organization of the Jagas, a Negro tribe of Angola, which was described by Andrew Battell (1900) in the year 1600, provides an instance of a military organization which was entirely predatory and itinerant, and without the civic background of a state and a definite portion of territory. Under such a system, no agricultural or pastoral pursuits were possible, and even the palm trees were cut down to provide sap for making wine. Sedentary dwellers drew the sap at intervals without injuring the trees. Every economic principle was sacrificed to the necessity of quick movements and surprise attacks. The Jagas destroyed their children, since these were an encumbrance, but to replace this loss by infanticide they adopted captive children who were old enough to fend for themselves. This is, however, an exceptional military organization and not a usual African type.

In describing the army of Dahomey, A. B. Ellis (1890) states that the whole effective male population could be called for service when required, and in addition to men, women were employed for transporting baggage. In time of peace, a smaller standing army was kept. The permanent fighting force included the Amazons, who formed a bodyguard for the king, whose wives they were, at least in name. The corps of Amazons was recruited about 1729 as a body of armed women whose chief function was to swell the ranks of men, so as to create a more imposing sight. King Gezo (1818) improved the force by inspecting girls and enlisting those whom he thought

suitable. The ranks of the Amazons were increased by enlistment of victims who had been spared from the annual sacrifice of human beings. Female criminals and women convicted of adultery were enlisted in the Amazon corps. After entering military service, women were required to abandon all relationships with men, and males were expected to withdraw from view whenever the Amazon corps approached and struck a warning gong. Jawbones of the enemy were valued as trophies, for these were attached to the handles of swords, also to drums and horns used by the Amazons.

J. A. Skertchly (1874, pp. 454-459), who was an unwilling guest of the king of Dahomey in 1871, witnessed state ceremonies at which the corps of Amazons was present. He states that the women were "impudent hussies," who could not hit a haystack at short range when they fired their blunderbusses. But J. Duncan (1847, vol. 2, p. 226), who saw the marching of 600 Amazons in 1846, praises their military precision. The women marched to the roll of drums which were ornamented with the skulls of their enemies. The full corps of Amazons comprised about eight thousand persons, who gave a demonstration of attack by scaling a thornbush enclosure seventy feet wide and eight feet high. The scalps of enemies taken in warfare were permanently preserved and used during maneuvers. Skulls of enemies were used as drinking vessels on ceremonial occasions (R. F. Burton, 1864, vol. 2, pp. 68-85; and Le Hérissé, 1911, p. 59).

An account of military organization among the Yoruba of Nigeria indicates the essential differences between the systems of the western Negro and the eastern Hamite. S. Johnson (1921, p. 132) refers to the absence of a standing army, but states that every man capable of bearing arms was expected to serve in war; yet "the law did not make it compulsory except for men of rank and title, and for home defence." At the conclusion of war, which was largely a matter of quick predatory expeditions into Dahomey, every man returned to his farm. Fanti war organization has recently been described by J. C. de Graft Johnson (1932).

The influence of the Hamitic military system on that of Bantu Negroes may be appreciated by considering the organization of the Masai in conjunction with that of the Zulu, the Bathonga, and the Ba-ila. The social organization of the Masai (Huntingford, 1935) was permanently based on the creation and maintenance of a large army in which all males served as long as they were in the warrior grade, and at the conclusion of military service the soldiers discarded

their weapons to enter the ruling grade, consisting of elderly men (Merker, 1904, pp. 82-85; Hollis, 1905, pp. 120, 132, 178).

No uncircumcised boys were allowed to carry spears or swords, but after initiatory rites the newly circumcised were enrolled in the age-grade of warriors. Soldiers were not allowed to marry, but they cohabited with girls who lived together in charge of older women. Each age-grade and subdistrict had its own design for decorating shields and for marking spears. Magical preparations for war included the pouring of milk over the ground, and women sprinkled the warriors with milk. Among the Masai, milk and grass, which are sacred symbols of pastoral life, are important in all ceremonies, including peace-making at the conclusion of hostilities.

The military system of the Masai affected the whole of Kenya and Tanganyika Territory, but the Masai did not come into direct conflict with the Zulu. British and German intrusion came as a wedge between the southern advance of the Masai and the northern advance of the Zulu. Extension of Zulu power up the east side of Africa imposed a military system on the Bathonga of Portuguese East Africa, while the Ba-ila, the Wayao, the Wahehe, and the Wanyamwezi were also affected by Zulu contacts.

The Wahehe (A. G. O. Hodgson, 1926a, pp. 37-58) relied principally on their spears and shields, as did the Zulu, and in addition to these weapons they carried crescentic axes. Feather head-dresses were worn, and a cloth was tied round the arm to indicate bravery. The night before the warriors left camp was occupied by making war medicine. This task was given to a medicine-man who worked in the house of spirits around which the army paraded before setting out the following morning. Each warrior gave himself speed by rubbing his knees with the medicine, and he was protected by taboos placed on his wife, who was forbidden to bathe while he was on a journey. Infraction of the taboos involved death of the husband.

Sexual relations with captured women were forbidden before they had been brought home and distributed by the Sultan, and rape of these women might be punished with death. If a female objected to cohabiting with her captor, she was usually permitted to select another partner. Sometimes Wahehe warriors drank the blood of the men they had killed, saying, "We are eating men." After the battle, every warrior placed the testicles of the man or men he had killed on the point of his spear, but the trophies were buried after they had been shown to the Sultan.

Returning soldiers of the Wahehe were welcomed by their women, who threw rice on the ground. A feast and drinking of beer followed, and at this ceremony distinctions were conferred by the Sultan, who shared the prisoners equally between the warriors and himself. Cowards were punished by having to drink water until their stomachs were greatly swollen, or they might have to carry grinding-stones on their heads to indicate that they were fit only for a woman's occupation.

So brutal was the discipline of Chaka, the Zulu leader, that some of his generals rebelled and placed themselves at the head of independent troops (W. S. Fergusson, 1918, pp. 197-234). Moselekatze carried out conquests north of the Vaal and the Limpopo rivers, while Soon-Kundava advanced into the southern part of Portuguese East Africa. The rigors of training in the Zulu army included long waterless marches, military exercises in which one company was commanded to attack another with the zest and weapons of actual warfare, and the execution of supposed cowards, who were selected by witchcraft. The unsuccessful were put to death. An efficient system of espionage was developed.

Chaka's standing army numbered about fifteen thousand men, who were divided into regiments (*ekanda*), each of which contained from six hundred to one thousand warriors commanded by an *induna*, who had nine subordinates. Near each military camp were villages that supplied meat and other commodities to the troops. Men were engaged in active service until their fortieth year and during that time they were forbidden to marry, but they had access to girls living near their camps. Elderly disabled warriors formed a reserve class called "the mice," and for these domestic life was permitted.

A typical regiment consisted of two grades of warriors: the juniors, who carried shields of black hide; and the veterans, who used white shields with black spots. In order to enlist in the army, boys of about sixteen years of age went to the kraals of their fathers' regiments and milked the cows in such a way that the milk came directly into the mouths of the milkers. These youths were then paraded before the paramount chief and enrolled in the army. A large number of boys were employed as camp followers who carried baggage for the army, performed menial work, and so received their first experience of warfare. For information on military organization in Swaziland, H. Beemer (1937) should be consulted.

The story of Zulu exploits is one of devastation of land, crops, and villages, together with confiscation of the herds of the

conquered. Over large areas, populations were annihilated and those who survived a massacre died of famine.

The military system, equipment, and tactics of the Bathonga, who were conquered by the Zulu about the year 1820, resembled that of their conquerors. Before this time, the Bathonga had not been a military tribe, but subjugation changed the whole aspect of their organization and they became incorporated with the warlike Angoni. H. A. Junod (1912, vol. 1, p. 439) points out that polygyny was a direct result of warfare, since the Bathonga killed male prisoners and married captured women.

The martial equipment of the Bathonga resembled that of east African warriors in general. Head decorations consisted of ostrich feather plumes and porcupine quills; arm-bands of leather were worn; oval shields of oxhide were carried; and spears were of two kinds. The heavier spear was used in hand-to-hand fighting, and light assagais were carried for throwing.

The Bathonga army was mustered by swift messengers who ran the length and breadth of the country, blowing war trumpets. All men—and every man was obliged to serve—brought out their panoply of war and converged on the capital. Here they were arranged in companies, each of which had a distinguishing head-dress, an animal name as an emblem, and a war cry in imitation of the emblematic animal.

The war dance was a pantomimic display arranged to produce intense excitement and to give unity of purpose. The medicine-men provided each man with a concoction that the soldier put into his mouth and spat out again. The warriors were then seated with heads bowed on their knees, while an old woman entered the circle and sprinkled medicine on their heads. Meanwhile she cursed the enemy, "Kill them! kill the dogs! break their pots! capture their chief!"

Further preparations consisted of killing a bull whose flesh was cooked, and to the mixture were added scrapings from the dried fingers of enemies killed in battle. This brew was called "the medicine of hatred," and it was fed to the soldiers by their commander, who threw the meat into their mouths. The commander consecrated shields by striking them, and to test further the loyalty of his men he held a flaming torch near their plumes, in the belief that the feathers of a coward would catch fire.

Warriors returning from the fight were thought to be defiled because they were followed by *nuru*, a name given to the ghost of a

slain enemy. To remove the defilement, the warriors had to observe prohibitions against sexual intercourse. They had to use special vessels for cooking. Cuts were made between their eyebrows, and into these incisions protective medicines were rubbed.

The Ba-ila (Bantu) of Rhodesia were affected by contact with the Matabele, whose tactics were part of the Zulu system, yet the Ba-ila never organized a military system comparable to that of the Zulu. The Ba-ila spent much time in mimic warfare, and, like the Zulu, they indulged in realistic fighting at close quarters (Smith and Dale, vol. 1, pp. 170-179). In actual warfare no quarter was given, and every enemy, whether dead or not, was beheaded, so that a pile of heads, and later the preserved skulls, might be exhibited by the conquerors. Testicles of slain enemies were excised and eaten, but it was said that a coward who partook of them would vomit, while the heart of a brave warrior would be strengthened. The practice of piling skull trophies was a Matabele custom. Eating parts of the dead foe was characteristic of Zulu rites; so also was the act of anointing the tongues of the warriors to preserve the victors from the malevolent ghosts of their enemies.

HEAD-HUNTING AND CANNIBALISM

These practices are local and intermittent. Head-hunting and cannibal tribes were located until recent times in the central pagan belt of Nigeria from Yola to the Zaria province. All the cannibal tribes were head-hunters, but some head-hunting tribes were not cannibals. C. K. Meek has prepared a list of thirty-four cannibal tribes and twenty-seven head-hunting tribes (1925, vol. 2, pp. 48-53).

"The acquisition of an enemy's head is the young man's passport to manhood. Until he has attained this distinction his social status is no better than that of a girl, and no girl would consent to marry him. But when he has won his trophy, and can prove that it was obtained in the manner prescribed by custom, he can take his place in the ranks of warriors, and his prowess is celebrated by a public feast." Drinking from the skulls of enemies was customary among head-hunters, and rites were performed to render the spirits of the victims harmless.

Religious rites were performed in connection with head-hunting. The Tangale took the captured heads to a sacred grove, where the officiating priest made a prayer cursing the kindred of the dead man and asking for further success in head-hunting. Flesh from the heads

was eaten at a ceremonial meal, and after one year rites of purification for the victors were performed. Cannibalism was mainly ceremonial, and the bodies of victims were eaten at the sacred shrines of the victors (see also Tremearne, 1912a, 1912b, and R. Steinmetz, 1896, pp. 1-60).

Many social, linguistic, and physical miscegenations can be ascribed to warfare over extensive territories during a long period, and among cultural changes due to warfare the institution of slavery is of primary social and economic importance.

SLAVERY

This heading includes several distinct divisions of the subject, which differ in their social and economic aspects. The main divisions of the subject are: (1) The European and American slave trade with west Africa. (2) Arab raids and slave trading among Negro tribes. (3) Slavery among Negroes and Hamiticized Negroes themselves as a result of warfare. (4) Domestic slavery within tribes. This institution includes the pawning of persons who by their labor discharge debts, either for themselves or for a relative.

EUROPEAN AND AMERICAN TRADE

The European slave trade with Africa, which began about the year 1600, was important economically because of its contribution to the commerce and exploration of the continent. During two centuries the Dutch, Portuguese, British, French, Spanish, and American nations competed for this lucrative traffic in slaves, and, in addition, merchants carried on trade to secure gold and ivory in exchange for European commodities.

Commercial enterprise and exploration of the maritime region from Sierra Leone to the mouth of the Congo led to the establishment of rival European trading posts, whose governors entered into alliances with African chiefs. Gradually the control of trading companies which were authorized by government charters was replaced by direct government control, until at last a tense political situation was created and Africa was partitioned into spheres of influence; then later a more precise division into possessions was recognized among European powers.

The foreign slave trade with Africa exerted strong political influence that tended either to build up or to disintegrate African states, and the export of Negroes led to a transfer of African culture to Brazil, Guiana, the West Indies, and the southern states of North America (Herskovits, M. J. and F. S. London, 1934; H. H. Johnston,

1910). But at last the traffic in slaves was repudiated by American and European countries early in the nineteenth century, though a clandestine trade survived for many years after the formal repudiation. Several important journeys of exploration were undertaken with a view to checking the activities of slavers, and two instances of such journeys are those of David Livingstone (1843-70) and Commander L. Cameron (1875).

Of the actual operation of the European slave trade in Africa, W. Bosman, chief factor for the Dutch at Elmina (1705) and Mungo Park (1799), a Scottish explorer (1795-1805), have left accounts in their journals. W. Bosman (1907) states that most of the slaves who were offered to Europeans at the coast were prisoners of war. These unfortunates were imprisoned in forts and compounds until their prospective masters had made terms with the vendors. He continues:

"They are all brought out together, where by our surgeons whose province it is, they are thoroughly examined even to the smallest member, and that naked too, both men and women, without the least distinction or modesty. The invalids and the maimed being thrown out as I have told you, the remainder are numbered and it is entered who delivered them. In the meanwhile a burning-iron with the arms or names of the companies lies in the fire, with which ours are marked on the breast. This is done that we may distinguish them from the slaves of the English, French, or others, which are also marked with their mark. I doubt not but this trade seems very barbarous to you, but since it is followed by necessity it must go on, but we yet take all possible care that they are not burned too hard, especially the women, who are more tender than the men." Further information on this subject is given by G. E. Martin (1930), editor of N. Owen's "Journal of a Slave Dealer." The attitude of the church toward the slave trade, before the year A.D. 1500 has been described by R. W. Logan (1932). Canot's lurid account has run into many editions; he gives background, but one must beware of embellishments.

ARAB SLAVE TRADE

The activities of Arabs as slavers in the interior of Africa aided the spread of Mohammedanism, disseminated the Arabic language, led to physical miscegenation of different tribes of Negroes, and the interbreeding of Tuaregs, Berbers, and Arabs with their Negro slaves. Cultural elements were also distributed by Arab contacts with Negroes, and in Tunisia a distinct west African culture survives

today among Hausa communities. The institution of slavery has profoundly affected the social organization and the economic life of the Tuareg, the Arabs and Berbers of north Africa, and the Negro tribes of the eastern Sudan.

According to B. Meakin, (1902, pp. 133-141), who studied the subject of slavery in Morocco, the treatment given by Arabs to their slaves when the desert journey was ended was far more humane than that accorded to Negroes who were transported to the New World by Europeans and Americans. In Morocco, Negro blood was not a social disadvantage, and slaves, together with their progeny, were to some extent protected by Koranic law. Exceptional instances of cruelty occurred, and slaves were openly sold in the markets, but a wealthy master would scorn to have his slaves ill fed, miserably clothed, or badly housed.

Yet the lot of many slaves under Arab rule was a hard one, for not all were comfortably settled in domestic service, and droves might be sold like cattle. Meakin states that according to Koranic law masters could mate their slaves, but they were not allowed to separate husbands, wives, and their children. Children of masters by their slaves were free persons, and the mothers of such children could not be sold, but gained their freedom on the death of their master.

No legal slavery exists in Africa today under European rule, but numerous Negroes are slaves, and descendants of slaves, who are still living in tribes foreign to them. Mass migration of these domestic slaves to the places of their origin is impossible, and they continue as serfs who are no longer subject to sale and violence. Lord Noel Buxton (1932, p. 450) reports that raiding villages and taking away slaves still occurs in the western lowlands of Abyssinia.

Of the Tuareg of Air, F. R. Rodd (1926, p. 135) states, "Neither the advent of a European power, nor subsequent changes in the social structure of the country, had very much effect on the position of slaves in Air." The Tuareg divide their slaves into two categories—household slaves and outdoor slaves—and both of these classes are chattels in local customary law, yet slavery among the Tuareg never involved real hardship. Under Arabs and Tuareg alike, the general tendency has been for the slave class to settle, subserviently it is true, but nevertheless not unhappily. Such facts do not, however, mitigate the horrors of slave raiding and the gruesome marches through deserts and forests to a destination that was reached by only a small proportion of a slave gang.

Arab slave caravans of Libya and the eastern Sudan were described by J. L. Burckhardt (1822, pp. 290-295) more than a century ago. He records that during the journey from Dafur to Egypt males were tied to a long pole, one end of which was fastened to a camel saddle, while the forked end of the pole was made fast about the slave's neck. In addition to this, the right hand of the slave was tied to the pole, and in that position he marched the whole day behind the camel. Yet the treatment of slaves who settled in domestic service was kind rather than otherwise, since they were seldom flogged, were well fed, and were not overworked.

Two Arab practices were the castration of some male slaves and the infibulation of girls. Emasculation of boys who were intended as eunuch servants was a source of profit to their masters. Burckhardt reports that the operation was often performed at a village near Siout in upper Egypt:

"The operators during my stay in that part of the country were two Coptic monks who were said to excel all their predecessors in dexterity, and who had a house in which the victims were received. The operation very seldom proved fatal. I know certainly that of sixty boys on whom the operation was performed in 1813 only two died. The usual age for the operation is from eight to twelve years. Before the operation the boys are each worth 300 piastres, but their value after emasculation is a thousand piastres. The Copts received from forty-five to sixty piastres for each operation. This enormous profit stifles any sentiment of mercy which the traders might otherwise entertain." Castrated boys were sold into the harems of north Africa, Egypt, and Arabia.

The infibulation of girls, described by Burckhardt and also by W. G. Browne (1799, pp. 349-350), preserved virginity, and so made slave girls more valuable as concubines.

In describing the status of slaves among the Bedouin Arabs of Kufra and other Libyan oases in 1922, A. M. Hassanein Bey (1925, pp. 179-181; 259-260) states that in order to avoid the vigilance of French authority in Dafur, where slavery and the export of slaves are forbidden, Bedouins contract slave marriages in Wadai. This the Arabs do with the intention of divorcing their slave wives at Kufra where the value of a female slave is from 150 to 200 dollars, while the price of a male is rather less. If the owner of a slave girl marries her and she bears him a male child, the mother can claim her freedom. The child of a slave woman and a free man is always free, and even if left an orphan the child of such parentage cannot be

enslaved. Slaves may rise to positions of affluence in the service of their masters, and every owner of slaves would think himself discredited if his slaves were not well fed and adequately clothed. A freed slave is disdained by slaves who are in the service of wealthy men, and slaves who are emancipated are ashamed not to be attached to persons of importance. In the absence of other children, the son of a slave woman by her master becomes the head of a tribe or sub-tribe without any color prejudice whatsoever.

Canon C. H. Robinson (1900, pp. 127-240) has provided a detailed account of slavery in northern Nigeria toward the end of the nineteenth century, for, although the British formally renounced the export of slaves from Africa about the year 1836, slavery existed within British spheres of influence in the interior for a long period. In Nigeria, Mohammedans attacked tribes who had not been converted to Islam, and from Bornu alone ten thousand slaves were annually exported across the Sahara to Tripoli. In the year 1894, five hundred slaves were daily sold in the markets of Kano. In accordance with Koranic law, slaves had a legal status; they were often well treated and had the position of adopted children (Meek, 1925, vol. 1, pp. 287-293).

Eunuchs and other slaves frequently attained high positions, and, among the Fulani, slaves were often freed so that they might assume the guardianship of their master's property and children. Slaves were sometimes allowed to farm on their own account, and though the master might lay claim to the produce he never did so; consequently, slaves might become persons of considerable substance. Slaves accompanied their masters to war and on trading expeditions, and freedom was given to a slave who made the pilgrimage to Mecca.

DOMESTIC SLAVERY AND PAWNING

Data given by R. S. Rattray (1923, pp. 43, 230) further emphasize the degree of social freedom given to slaves. Wealthy males of the Ashanti purchased female slaves, by whom they had children. Since these women came from outside the Ashanti nation, they had no *abusua* (clan) in the Ashanti sense of the word, but their children, though lacking female lineage of the Ashanti type, had *ntoro* (male essence or spirit) of their father and master. The slave woman and her children grew up within the family of the master, who recognized them as members of his household. If the direct family line became extinct, a slave child, who might be a great-great-grandchild of the original female slave, would take precedence as heir over a distant relative who might be likely to take away movable

property, so leaving the home and the ancestral spirits neglected. The slave, male or female, who was chosen as successor and heir remained at the homestead, where he performed rites in honor of the ancestral spirits. Lands were sometimes given to a favorite slave for life, but instead of reverting to the owner this property was inherited by children of the slave.

The conditions of slavery among the Wahehe of east Africa again show that the indigenous African slavery was of a more humane type than that practiced by European traders (Hodgson, 1926a, p. 48). The Wahehe derived their slaves from various sources. The bondmen might be captives of war, prisoners for whom the death penalty had been commuted, children of a man who had been executed, or those who had been pawned to pay off debts. These slaves were engaged in domestic or agricultural work, and their master might sell or hire them to another person. Slaves might be beaten by their owners, but they had rights of appeal to the Sultan.

Females slaves were not lent to a stranger without their consent. No loss of social standing occurred when a freeman married a slave woman. The status of a child was the same as that of the mother; therefore, if a free woman married a male slave, her child would be a free person. Emasculation was not practiced by the Wahehe, though the Wayao, a neighboring tribe, sometimes followed this custom. Among the Wahehe, a slave could acquire property and bequeath it to his or her children. A male slave might gain his freedom by prowess in war, and if he captured one of the enemy he became the master of that man, and, therefore, himself a slave owner.

Slavery among the Ovimbundu of Angola illustrated several forms of this institution. The Bihéans, who are a northern section of the Ovimbundu, were renowned traders whose carriers crossed the Congo region and Rhodesia to the shores of Lakes Nyasa and Tanganyika. There, and along the route, slaves and ivory were purchased with guns, powder, and other Portuguese imports. The slaves were eventually exported from the Angolan seaport of Benguela to the Portuguese colony of Brazil. This traffic constituted an external foreign trade in slaves, and so built up the wealth and prestige of the Ovimbundu.

Slaves captured in warfare, for instance, from the Vachokwe of eastern Angola, who were hostile to Umbundu caravans, were sometimes permanently incorporated in households of the Ovimbundu. A further class of slaves comprised individuals taken in warfare

among kingdoms of the Ovimbundu confederacy, and in addition to these bondmen many persons worked as pawns to pay off debts. The debts might be personal or the liabilities of a relative, and in some instances men and their families became slaves because they were unable to pay fines imposed for theft, murder, or adultery.

A definite distinction was made between the treatment of slaves acquired from hostile tribes and those who, either as prisoners or pawns from the Ovimbundu kingdoms, had descended to the ranks of slavery. Over his foreign slaves a master had rights of punishment, including a death sentence, but any slave could appeal to the headman of a village for justice. All children of foreign slaves became the slaves of their master, and he could sell them at pleasure. The Ovimbundu never came into touch with Mohammedan law; therefore, Koranic injunctions on this subject did not apply. Under no circumstances could a slave acquire property if he came from outside the Ovimbundu confederacy. Foreign slaves were not branded, but the general treatment was harsh, and runaway slaves were hunted with dogs. A foreign slave had no prospect of buying his freedom since he had no independent earnings. He might be a blacksmith or other artisan, but his master had no responsibility except that of providing food.

The Ovimbundu had no slave markets, but every man knew where slaves could be privately purchased. Slave women were not lent out for prostitution, and a master of slaves did not have promiscuous intercourse with the women, though he might choose two or three as concubines. In former days, slaves were killed and eaten at the accession of a new king, and before a large caravan set out, a medicine-man killed a slave and an ox with the same spear. The meats were cooked together and ceremonially eaten by members of the caravan.

Slaves among the Ovimbundu confederacy were well treated, adequately fed, and not overworked, since their master hoped that the freedom of his serfs would be purchased. In case of unpaid debts or fines, there was always the hope that relatives would discharge the obligation, provided their kinsfolk were liberated in good physical condition.

Ngonga, my informant, stated that he had recently paid several oxen for the redemption of his brother and sister, who had worked for a long period to pay off the debts of their mother's brother. Ngonga's sister was ten years of age when she was taken to serve as a pawn, but when set free she was a woman with three children.

Ngonga's brother was not taken from his home, but he worked for a creditor of his mother's brother, and the reward for the labor was taken to pay the debts of that relative. Pawning of this kind still forms a part of the Negro social system, the abuse of which has been a subject of investigation by the League of Nations in Liberia and elsewhere (F. D. Lugard, 1933a; Rattray, 1932).

A strong religious and magical element has been observed in all the beliefs and institutions that are united to form a pattern of social organization and types of social control. The functions of kinship, law, secret societies, and other aspects of tribal life have been shown in close relation to spiritual forces that are superior to the power of man. Finally, the nature of these spiritual forces should be examined, especially with reference to deism, ancestor worship, the sacredness of kings, and the powers of medicine-men and their magic.

VI. RELIGION

DIFFICULTIES OF STUDY

The difficulty of making a sympathetic and discerning study of Negro religion is illustrated by the words of W. Bosman, who, though a capable observer, said of the Ashanti, "Their religion is so absurd that I scarce know how to describe it." And in summing up he adds, "To conclude their ridiculous religion I shall add a small account of their festivals." Bosman, like many more recent observers, experienced a difficulty in understanding the philosophy and psychology of which the rites were an expression (translation, A. Jones, 1907).

If an investigator confines his attention to concrete expressions of beliefs, he observes rites of ancestor worship, also the use of shrines and sacred objects, together with the ritual and equipment of medicine-men, all of which are direct, practical, and functional. But if the inquiry is extended in order to provide explanations of conduct, a realm of abstruse ideas is entered. The psychological background of religious exercises and magical practices is related to ideas of God, the fate of a soul, ancestor worship, multiple souls and their functions, reincarnation of ancestral spirits, and the processes by which ritual acts, prayers, and spells are supposed to achieve their purpose by making contacts with ghosts of the dead.

The difficulties that beset inquiry into Negro religion are typical of those that retard analysis of all religious beliefs and symbolic acts. Beliefs and ritual are accepted by force of suggestion in early childhood without question of their validity, and a definite attitude toward the spiritual is formed without criticism or any attempt to justify and explain. A Negro, when questioned, may be unwilling to discuss his rites and concepts, and, even if communicative, he finds that his own vocabulary, though suited to the expression of his ideas, has no true equivalents in a European language.

In this chapter, an attempt is made to give a concise account of functions rather than philosophy. We must recognize local differences of belief and ritual among the Bantu, Sudanic, and Nilotic Negroes; yet some common beliefs and practices are present. Despite differences, certain fundamentals can be established with regard to ideas of God, the sacredness of kings and chiefs, survival after death, ancestor worship, reincarnation, and the functions of medicine-men.

An instructive example of a philosophical approach may be found in G. Landtman's "The Origin of Sacrifice" (1934). This writer reviews various theories respecting the nature of primitive religious beliefs and exercises. He takes practical examples to gauge the extent to which philosophy has been justified in its explanations of sacrifice, taboo, and other aspects of spiritual life.

These factors of spiritual life are closely related, with great complexity of belief and expression. Ideas of God and concepts of the nature of kingship are linked factors, and both are intimately concerned with the theory and practice of ancestor worship. By virtue of their training, their hereditary power in some instances, and their equipment and ritual, all medicine-men are a liaison between the sacred and the profane. There exist two worlds, those of the flesh and the spirit, and the practical problem of religion is to bridge the gulf between them so that the spiritual world may serve the interests of agriculture, handicraft, law, family organization, human fecundity, and immunity from disease or catastrophe.

THE IDEA OF GOD

Deistic beliefs of the Ovimbundu of Angola are typical of concepts of a supreme God among Bantu Negroes. Suku is the most important spiritual being of the Ovimbundu, who say that he made the mountains, rivers, sky, and people. Some informants associated the name of Suku with rain, but the word does not mean rain, water, or food, since these are designated by the words *ombela*, *ovava*, and *okulia*, respectively.

In connection with the concept of Suku as a creator, a story states that in the beginning all was water; then a man came from above and caused land to appear. When out hunting, this first inhabitant saw a strange animal which he was about to shoot, but refrained when he observed that the creature was like himself. He captured the creature, took it home, mated, and raised a family.

Ideas of Suku emphasize his importance as a creator, but Suku gives no commands, offers no rewards, and threatens no punishments. He is too far away to be intimately concerned with the affairs of men, and the concept of this supreme being cannot be said to influence ethics, law, and general behavior; neither does Suku demand sacrifice or prayer.

An article by E. Torday (1928c, pp. 225-245) summarizes theistic beliefs of the southwestern Bantu, of which the Ovimbundu are a part. Torday points out that Nzambi is a god who, with trifling

modifications in the name, is known over a great part of the Bantu Negro area, from the Bakongo to the Barotse, and from the Bangala to the Ovaherero. The Bakongo call him Nzambi Mpungu. Antonio Cavazzi, who was a missionary to the lower Congo in the period 1654-70, states that in olden times the kings of Angola adored an idol named Kalunga, that is, the sea, or, according to others the Supreme Lord. The name still survives among the Ovimbundu as a word of greeting, and as the title of an exalted spiritual being.

South of the Ovimbundu, the Vakwanyama and other sections of the Ovambo use the word Kalunga (or Karunga) for a supreme being who is connected with Nzambi in the thoughts of the people. But these deities, though benign, are too remote to be interested in the lives of men, and in comparison with the active ancestral spirits the higher gods are unimportant.

Similarly, among the southeastern Bantu, there are concepts of a high god. P. V. Cathrein (1915, pp. 307-322) has examined the connotations of such words as Unkulunkulu and Uthlanga, who for several Zulu tribes were creators and supreme beings. After taking into consideration the research of Canon H. Callaway (1870), Cathrein states, that notwithstanding confusion of ideas arising from European intrusions, and a change of concepts with place and period, the Zulu had an indigenous idea of a supreme being. The Zulu god was a creator, one who punished, one who controlled thunder and lightning, and a deity who demanded sacrifice. The Zulu concept represents a god less otiose than Nzambi or Kalunga, but nevertheless not so functional as the spirits of dead ancestors.

H. A. Junod proves a close connection between ancestor worship and deism by showing that the Bathonga create their gods from souls of dead relatives. "Any man who has departed this earthly life becomes a *shikwembu*—a god." The two principal categories revered by the Bathonga are those of the family and those of the country. These deities are developed from the souls of dead commoners and deceased royalty, respectively. "In national calamities the gods of the country are invoked, while for purely family matters those of the family are called on." The process of making gods is always active, and several clearly defined classes of gods exist in addition to the two divisions mentioned, namely, the national and the family deities.

Each family has two groups of gods, one on the maternal and one on the paternal side of the family. These gods are equal in

power, and both are invoked though there is a general assumption that the maternal gods are more tender-hearted.

The "gods of bitterness" are the spirits of persons who have been drowned, killed by a wild beast, or have committed suicide. These gods include the spirits of pregnant women who have been buried without being cut open. This palpable evidence of the creation of deistic ideas given by H. A. Junod (1912, vol. 2, p. 347) is more instructive than a transcendentalism that assumes the existence of a supreme being who directs the aspirations of all men. The view expressed by W. C. Willoughby (1928a, p. 338) is to the effect that "there is an instinct for God that tells upon behaviour—an upward urge that makes for betterment, and that this is due to the unwearied play of the spirit of God on the souls of men." The creation of gods is a natural thought-process that must have occurred independently many times, since the basic concept is that of a clever creator who is all-powerful.

To continue with the deism of the southern Bantu: the Bavenda have Khuzwane, the creator, and his followers Thovhela and Raluvhimba. These gods are honored lightly, yet some offerings are made to them, and their names are venerated. The lesser regional deities have, however, more real spiritual influence, and in particular the spirits of the dead ancestors are objects of veneration, since they are believed to have benevolent as well as malign influence. Animistic beliefs relating to the spirits of trees, rivers, and mountains are important (A. M. Duggan-Cronin, 1928-31, vol. 1, p. 21).

The cosmology of the Lambas indicates the functions of the more remote spiritual beings who, though not intimate with the lives of men, are in charge of controlling forces. Rain is supplied from a lake above the dome of sky, and all water is in charge of the god Lesa. Thunder and lightning are the scoldings of Lesa. Beings of minor importance clean the sun and push the orb across the sky. They also light the fires of the sun and keep them burning. The moon also has workers who wash it clean, and the relationship of the sun to the moon is that of maternal uncle. This cosmology shows what is characteristic of Bantu religion, namely, the projection of mundane ideas into a spiritual universe (Doke, 1931c, pp. 222-225).

The deism of Sudanic Negroes of Ashanti, Dahomey, and some parts of Nigeria is more definite and operative than that of most Bantu Negroes, yet concepts of supreme beings are, on the whole, of secondary importance in comparison with the active proximity

of lesser gods and ancestral spirits. As an example of functional deism, the worship of Buku, the highest being of Atakpame, Togoland, may be considered. Beliefs include not only a rich mythology, but many definite commands and prohibitions. Buku is himself represented by a club-like object before which the worshipers have to make obeisance. Followers of Buku are expected to give reverence, sacrifice, and praise to their god, and they must swear their oaths by Buku in legal procedure. The outward symbols of allegiance to Buku are corporal paintings on head, face, and feet as well as the wearing of a cowrie-shell necklace and the carrying of a staff. Buku has his own priesthood (P. F. Müller, 1906-1908).

Prohibitions during sacred periods include sexual continence, abstention from all work, avoidance of bridges and canoes, and refusal to climb a hill or to ascend to the second story of a house. A worshiper of Buku is not allowed to sacrifice a female animal, and no offering of a dog or a pig may be made.

Evidence of deism in Ashanti shows a well-developed worship of supreme beings, who, according to R. S. Rattray (1923, 1927), are not a result of the theological teachings of Europeans. Nyame, the Sky god and supreme being of the Ashanti, differs from the Suku, Nzambi, and Kalunga of the southwestern Bantu in having shrines, a priesthood, and a definite system of worship with elaborate ritual. Moreover, Nyame is responsible for the lesser tutelary gods, who preside as genii of rivers, lakes, and the sea. Some of these beings are the sons of Nyame.

The priests of Nyame are dedicated to life service. They dress their hair in a peculiar manner and have ornaments with figures of the sun, moon, and stars embossed on them. Once a year, offerings of mashed yams are made to Nyame with the prayer, "My God, I pray you for life and I pray you for strength." Here is a functioning god, a supreme being who is in touch with the needs of men. But Rattray points out that the *obosum* or lesser gods are more important than Nyame in the practical affairs of everyday life. A similar deism, with a hierarchy of gods, some of whose names are the same as those of Ashanti, is described by L. Tauxier (1932, pp. 64-125; 219-227).

A. Le Hérisse (1911, pp. 96, 99, 137) states that in Dahomey there is belief in a supreme being, Mahou or Sê, but this god is not represented in statues or symbols; neither is there a cult for him. His name means "principle" or "intelligence," and the word is pronounced in exclamations and invocations. Mahou created the

universe and many holy objects (Le Hérissé uses the word fetishes), which he is said to own through Vôdoun, whose name is applied to the sea, thunder, a monstrosity, and any force. The local Vôdoun are of greater practical importance than Mahou, since they control the lives of men. Legba, one of the Vôdoun, can grant or refuse offspring. The guardian spirits, which sometimes reside in trees and stones, are the chief functional spiritual beings.

According to the data of M. J. and F. S. Herskovits (1933), Dahomean religion includes a belief in a Sky god, who partitioned the universe and gave special powers to a hierarchy of lesser gods. This corresponds with the theistic beliefs of Ashanti and the Ivory Coast, as reported by Rattray and Tauxier, respectively. Herskovits says that the religion of Dahomey is Vodou worship; even the cult of ancestors is a Vodou cult, for the dead are deified and the Vodou are the gods. Each Dahomean identifies himself with the cult of his particular pantheon. The great gods are not individual deities, but pantheons on whom the kingdom is dependent for protection and nourishment. The cult of the great gods is not so practically important in daily life as the cult of ancestors, comprising deified ancestors and the recent dead. The founders of the more important sibs rank with the great gods, and a link between deism and ancestor worship is provided by a cult of the spirits who represent the first offspring of the original supernatural founders of the principal sibs. The domain of the goddess Mawu is the moon, and she is represented as controlling the universe. Lisa, who rules the sun, is a male. Aido Hwedo, the serpent deity who carries thunderbolts to earth and lies under the earth to support its weight, stands for the personification of gods who preceded those with whom Dahomean tradition begins. Herskovits then describes the sky pantheon and the thunder pantheon, together with the ancestral cult and the functioning of personal spirits and powers.

C. K. Meek (1931a, pp. 197, 217) states that "the Jukun, for all their devotion to the cults of royal and family ancestors, have a fundamental belief in the Supreme control of the Universe by an inscrutable Being who is known as Chido or Shido, i.e., the Sky-God." Ama is another god of importance, but a distinction exists between Chido and Ama, although the Jukun sometimes declare that the two deities are identical. Meek suggests that this idea of the unity of the gods comes from Mohammedan teaching. Chido is identified with all celestial phenomena and with the sun in particular. Ama is a creator, and fashioner of men.

But despite an advanced theism the "work-a-day religion of the Jukun is the cult of ancestors. On the national side, this assumes the form of the cult of dead kings, who become gods; and in its private aspect it assumes the character of a propitiation of ancestors who are regarded as being in close association with the gods and even with the supreme deities Chido and Ama. The cult of ancestors is not to be thought of as a distinct cult from that of the higher deities. For the cult of the one is the cult of the other, and conversely. When national rites are performed on account of a dead chief or of any deity, the ancestors are thought to be present; and when private rites are performed on behalf of ancestors the gods are also believed to be close at hand."

The Yoruba believe in the existence of an almighty god whom they term Olorun, Lord of Heaven. He is acknowledged to be the maker of heaven and earth but is too exalted to concern himself directly with men and their affairs. The word Olorun is applied to god alone and is never used in the plural to denote Orisas. Kings and other notables may be termed Orisas, but the word Olorun is reserved for the great god alone. Sango, Oya, Orisa, and Oko are deified heroes. Orisala, a co-worker with Olorun, gave man his human form. Ogun is a god of war and of all instruments made of iron (S. Johnson 1921, pp. 26-39; 143-150). He is patron of the blacksmith's craft; and so the pantheon continues, gods having their wives and other relatives who attain the status of lesser gods after the manner of the ancient Egyptian pantheon, with which C. K. Meek (1931a, p. 122) has drawn some arresting analogies. Dedication to such lesser gods has led to the establishment of an Osu system among the Ibo (S. Leith-Ross, 1937).

Among the Shilluk and some other Nilotic Negroes, the name Jwok denotes the highest spiritual being, who, though a creator, is not particularly revered. Yet he is high above the spirits of the dead in the spiritual world. He dwells above, is the originator of death, and determines the fortune of men; but the name Jwok is seldom mentioned (P. W. Hofmayr 1911, pp. 120-131; pp. 185-242). The Shilluk have more regard for Nyakang, a god who was once a king and whose spirit is reincarnated in every king of the Shilluk people. Worship of family ancestors is the activating religious principle which is most intimately associated with daily life (C. G. Seligman, 1930, pp. 176-179).

Consideration of theistic ideas shows that these are present to varying degree among Bantu, Sudanic, and Nilotic Negroes. But

in all tribes the importance of the lesser gods is emphasized because they are closely concerned with the lives of man. I would say that the resemblances of deistic beliefs among Negroes are far more impressive than the differences.

Supreme gods are somewhat otiose, yet an exception must be made with regard to some areas of west Africa. In parts of the Ivory Coast, Ashanti, Dahomey, and certain regions of Nigeria a god-concept is clearly defined. The supreme deity, together with a hierarchy of lesser gods, has definite functions, and a tangible recognition in sacrifice and prayer. These are lacking among Bantu Negroes in their concept of Nzambi and Karunga. Whether this local development of functional theism has resulted from an importation of ideas, or whether the theology is indigenous, is uncertain; but the special aspects of the religion are clear.

According to R. P. J. van Wing, Nzambi is not a man or a woman, nor an ancestor hero, nor an animal, nor heaven, nor earth. Nzambi is unique and separate from the rest. Nzambi is Nzambi. "On ne définit pas Dieu." (See "... L'Etre suprême des Bakongo," *Recherches de Science Religieuse*, Paris, Tome 10, 1920, pp. 75-81.)

There exists, however, a comparable groundwork in Negro religion, since the sacredness of kings and chiefs, together with the activity of all ancestral spirits, and a belief in their reincarnation, can be shown to be of paramount importance in all Negro life.

SACRED KINGS

The office of kingship, in both its temporal and spiritual aspects, is particularly well developed in the region from Ashanti through Dahomey, and into Nigeria. But similar beliefs and practices prevail among some Nilotic and Bantu Negroes, though often without the elaboration and the emphasis that characterize the religion of certain western Negroes.

WEST AFRICAN KINGS

The Ashanti regard the souls of dead kings with the deepest reverence, and a reigning king officiates as a high priest at annual ceremonies for propitiating ancestral souls and asking from them temporal benefits. Various sacred objects are shrines that can temporarily accommodate the souls of the dead, and among these cult objects, the golden stool, which is the soul of the nation, is most important. Tradition states that the stool alighted from the sky in a black cloud. Even the king never sits on this stool, but makes pretence to do so three times before sitting on his own stool

during the ceremonies for invoking royal ancestors (Rattray, 1923, pp. 289-293; E. W. Smith, 1926).

The Ashanti custom of preserving the bones of a dead king so that these might serve as a shrine or a medium through which the ancestral spirit could find expression, will frequently be noted among Bantu as well as Sudanic Negroes. In Ashanti ceremonials, human sacrifice played an important part since kings required service in a spirit world. The reigning king and the victims repaired to the mausoleum where the bones of dead kings were kept, and there the reigning king officiated in an ancestral cult in which fertility rites were prominent.

The feast of the dead was a yam ceremony, which was performed annually at the ripening of the crop and before any of the produce was eaten; the procedure was an offering of the first fruits to dead ancestors. The Ashanti word *odwira* means a cleansing of the nation and a purification of the shrines of ancestral spirits, of gods, and of the less important spiritual powers. Cleansing the stools of past kings by washing and offering yams is part of the rites, and the sanctity of the stools is renewed by pouring over them the blood of sacrificed animals.

At the *odwira* ceremony, each victim for sacrifice had a knife passed through his cheeks to prevent him from cursing the king, and his arms were pinioned from behind. The officiating king poured out wine before each skeleton of a former king. Before each sacrifice a drummer sent out a message of death, and the executioner said, "Off with you to the land of ghosts and serve—," then the name of a dead king was mentioned. This routine was followed before each skeleton. When a reigning king died, the news went forth that a mighty tree had fallen, for the death of a king could not be directly announced. Then followed rites, at the end of which the bones of the king were placed in the mausoleum, where they were preserved to participate in the next cleansing and fertility ceremony. At the death of a king his wives and some of the slaves were strangled, so that their spirits could accompany and serve the ghost of their master.

In the household of the king, a strong system of mother-right prevailed, and does today. A king's son can never be king, and the royal successor is chosen by the Queen Mother, who also selects the principal wife for the new king. The Queen Mother has a silver stool, and at the ceremony for propitiating ghosts of the royal dead she takes a prominent part. The status of women is further indicated

by the training of priestesses whose functions are as important as those of the priests.

In Dahomey, as A. Le Hérissé (1911, pp. 5, 6, 35, 41, 73) points out, the king was supreme ruler, owner of all forms of wealth, arbiter in war and peace, and chief lawgiver, with power of life and death in his hands. He was also the high priest at all important religious fêtes. Each king at death became the principal person venerated by a section of the community composed of all his descendants. As among the Yoruba, the Jukun, and the Ashanti, court officials of high prestige were numerous, and the king's household was ostentatiously conducted. At the death of a king, his wives and many slaves were put to death, so that their souls might accompany that of their master, and elaborate mourning rites were observed throughout the kingdom. Women of royal rank were given a high standing in the king's household, and the twin sister of Akaba (1680-1708) was a joint ruler with restricted authority.

In 1871 J. A. Skertchly (1874, pp. 178-286) witnessed at the court of Gelelé ritual connected with ancestor worship, fertility cults, and human sacrifice. The ceremonials recorded were repeated each autumn, and they were of the kind performed at the installation of a new king, yet not so elaborate.

Skertchly describes the feasting, buffoonery, and military parades that accompanied the So-sin festivals. He pictures the twelve victims for sacrifice dressed in white shirts with scarlet trimmings and having a blood-red heart on the right shoulder. The victims were tied hand and foot, but they were cared for by an attendant who fed them and fanned off the flies.

"Contrary to what some good people in England would have us believe, the *morituri* were in the best of spirits. Those ungagged were laughing and talking with each other, while their muzzled brethren were taking matters just as apathetically, swaying their heads from side to side in time to the music of the bands."

Skertchly touches the main function of these So-sin customs when he describes a small hut erected for reception of the ghost of the dead King Gèzu. The roof of this dwelling was decorated with striped cloth and cowrie shells, and inside was a gift of tobacco and liquor. This hut, like the stools used at similar rites in Ashanti, was a shrine for temporary residence of the spirit who was to be supplicated. The king of the Dahomeans took charge of all the ritual and so acted as intermediary between the living and the dead.

Kingship among the Yoruba of Nigeria is of the Ashanti and Dahomean type (S. Johnson, 1921, pp. 48-57). The king is the head of social organization, government, and religion. His person is sacred and he is not allowed in the streets by day; tradition states that a king acquired his prestige by eating the heart of his predecessor. During life the king is surrounded by a retinue of officers both male and female. The chief of these are military leaders, a diviner who consults oracles, keepers of genealogies and historical records, eunuchs who guard the king's wives, and custodians of such ceremonial objects as state umbrellas, drums, and ivory trumpets.

Certain women of the king's palace held exceptionally important positions; for example, the Iyamode resided in special quarters where she worshiped the spirits of former kings, and to her the king himself knelt in salute. A priestess of high rank consulted oracles at the tomb of a dead king, and when possessed by the spirit of the dead monarch she came raving to the royal palace to foretell the future and to state what kind of sacrifice was required by the dead king.

A king who was about to take office visited the mausoleum of his predecessors and asked their spirits for permission to reign, a request which was accompanied by sacrifice and other ritual. At the death of a king, slaves were sacrificed to serve in the spirit world, and a number of persons of high rank volunteered for the honor of being executed at the tomb of the king. During the life of a king of the Yoruba, men were appointed under a title meaning "to die with the king," and such persons, who were greatly honored during their lives, were distinguished by a gift of "death cloth," which was a silk wrapper. These guards of the king protected him against poison and assassination, and they were likely to be faithful since they had to commit suicide at the death of the king.

A king of the Yoruba who was unsuccessful in a war that he himself had provoked was expected to take his own life. A king of Dahomey who had outlived his usefulness received a gift of parrots' eggs as an intimation that he must commit suicide. Among the Baganda of Uganda, and in some Nilotic Negro tribes, self-sacrifice by suicide on account of age or inefficiency is one of the traits linked with an exalted kingship. When a king of the Yoruba ascended the throne, his mother was "asked to go to sleep," and after her suicide an "official mother" was appointed.

Some of these features of Yoruba kingship persist today, but the more crude customs were abolished in the year 1858. In the

kingdom of Benin, Southern Nigeria, customs of human sacrifice persisted until 1897. The sacrificial rites were performed at an altar in the king's compound. This structure remains today, but without so many decorative ivory tusks. Heads of bronze are retained, but these are not comparable in workmanship to the older examples. I noticed that the objects on the altar were sprinkled with blood, and was informed that goats and chickens are frequently sacrificed there in place of human victims.

In eastern Nigeria, among the Jukun, the same types of behavior and belief are associated with kingship. The Aku of Wukari is a supreme incarnation of divine power and as such receives great reverence. He must eat in private, and so great is the spiritual power within him that every object he touches becomes impregnated with divine force. In connection with law, we noted that sacred oaths are sworn on objects belonging to the king. The king is believed to control wind and rain; therefore, his primary function is to secure good harvests. Formerly the king was put to death when his physical strength began to decline, for on the vitality of the king depended fertility of the soil and fecundity of human and animal life (Meek, 1931, p. 123).

Formerly a Jukun king was a manifestation of the sun's power, and reverence for the sun is still a feature of spiritual beliefs in the Benue region of eastern Nigeria. Expressions equating the king with the moon still exist, for the ruler is sometimes called "he of the moon" or "the full moon." The phrase, "The full moon lighted the palace," means that the king gave an audience. C. K. Meek (1931b, vol. 2, pp. 490-549) states that tribes near the Jukun practice rites of moon worship, and these are closely associated with the person of a chief. A libation to the moon is poured over a monolith by a priest who prays that wives may be prolific and the crops bountiful. In the Jukun religion, kingship is associated with celestial bodies, divine power, and fertility. In connection with worship of the sun, a Jukun priest prays at a shrine, saying, "In coming to you, O Sun, at this season we are following the custom of our forefathers. Grant that all may be blessed with an abundant harvest, with health and offspring, with success in hunting and trade."

NILOTIC NEGRO KINGS

Among the Dinka, Shilluk, and some other Nilotic Negroes, religion is founded on ideas of God, the sacredness of kings and rain-makers, and reverence for all ancestral spirits. Deism, kingship, and ancestor worship were shown to be indispensable traits

of spiritual life among several tribes of Sudanic Negroes, despite the fact that their general culture differs radically from that of Nilotic Negroes. For the former, agriculture is of primary importance, and religious rites are concerned with productivity of the soil, but the social and economic life of the latter is based on the keeping of cattle.

In the religious beliefs and practices of Negroes, important differences occur, though the controlling principles are analogous. Human sacrifice and ceremonial cannibalism are not traits of the Nilotic region, and in this area the use of carved wooden figures is relatively unimportant. In Ashanti, Dahomey, and Nigeria, art and religion have combined to produce an elaborate expression of spiritual ideas through the media of wood, bronze, and ivory. Wood-carving, and especially the fabrication of human effigies that serve temporarily as shrines for the reception of ancestral spirits, are characteristic of the Bantu area. Nilotic Negroes are at a disadvantage with regard to raw materials for the development of esthetic art in connection with their religion.

The Dinka revere Dengit (Great Rain), and the Nile Dinka state that Dengit once ruled their tribe in human form; this is the same belief as that of the Shilluk, who assert that their god Nyakang was once a king. The Dinka begin their supplications with the phrase, "God and our ancestors," a phrase that correctly indicates the two main elements of their religion. Rain-making ceremonies take place at the shrines of Dengit, and a harvest rite following the cutting of durra is observed there. At this shrine of Dengit, the Agar Dinka install their new rain-makers. The deism of the Dinka is very similar to that of the Shilluk, who believe in a supreme being Jwok. The Dinka reverence Jwok but he is of less practical importance than Dengit, and likewise with the Shilluk, Nyakang is of more functional importance than the supreme being.

Rain-makers of the Shilluk and the Dinka were the king and the tribal chief, respectively, and in both tribes these rulers were slain if their health and virility failed. The Dinka rain-makers were regarded as sacred because each of them was controlled by an ancestral spirit that had come to him from several generations ago. An aged rain-maker who felt that his powers were failing made his own funeral arrangements. Among the Agar Dinka, a wide grave was prepared, and in this the aged rain-maker lay on a bed surrounded by his friends and relatives. The rain-maker reviewed the past and gave advice for the future; then, after a day or two of

abstention from food and water, he told the watchers to cover him with earth, and the grave was filled in.

Papit, a recent king of the Shilluk, traces his genealogy back to Nyakang through a line of twenty-eight kings. At the installation of a Shilluk king, a statue of Nyakang is placed on the stool and is then taken away. After sitting on this stool for a time the king retires, and in solitude he communes with Nyakang and his other ancestors during a period of ten days. During this period, the spirit of Nyakang enters the new king and so gives the spiritual power that a king must possess in order to maintain the prosperity of his people. (C. G. Seligman, 1912; C. G. and B. Z. Seligman, 1932, pp. 74-87).

BANTU NEGRO KINGS

The Baganda, a Bantu-speaking pastoral tribe of Uganda, have beliefs and practices closely resembling those of Sudanic and Nilotic Negroes. The associated ideas are those of divine power, the sacredness of the king, the worship of ancestral spirits of the royal dead, and the dependence of national prosperity on all these factors. Baganda customs, especially those associated with rain-making, resemble those of the Nilotes, but in the elaboration of ritual, including human sacrifice on a large scale, the Baganda procedure more closely resembles that of the Sudanic Negroes.

Canon J. Roscoe reports that the Baganda based their worship on the idea that agricultural and pastoral prosperity depended on the vitality of the king, who was never permitted to reign after he became old and feeble. If a king felt that his physical powers were waning, it was his duty to commit suicide, and in some instances a king took his own life while in his prime. This ceremonial sacrifice transferred the king to a world of spirits where he continued to live in affluence as owner of the herd of cattle that was killed at his grave. The spirits of men slain at the funeral of the king became his spiritual retinue. During the king's life, men were killed in order to give longer and more efficient life to the ruler. The Baganda had thirteen sacrificial places, each with its own temple and priesthood. The gods were intimately associated with these temples, and at the shrines contained therein oracles were read by the priests, who were told by the ghosts of kings what sacrifices were required. The decorated jawbone of a king was preserved, and, as in Ashanti, the most important rites of ancestor worship were performed in the presence of the king's bones (J. Roscoe, 1911, p. 107).

The idea of kingship as closely associated with divine power prevailed among sections of the Bushongo, who are southwestern Bantu. The king had an elaborate court organization including ministers, trade guilds, and medicine-men. Each king was a re-incarnation of the spirit of Bumba, the founder of the tribe, and from Bumba the monarch derived his power, for his ancestor Bumba had caused the sun to shine and had sent the rain. C. G. Seligman (1930, p. 209) compares the nature and power of Bushongo kingship with the beliefs and practices of the Shilluk in respect to Nyakang, founder of a lineage of divine kings.

E. Torday (1925, pp. 72, 154-156) states that god the creator is the supreme spirit of the Baluba; but it is to the relics of dead ancestors that homage is paid, and to these sacred remains supplications are addressed. An ancestor is worshiped as founder of the tribe, and his chief priest is the head of it. The human relics which form a sacred shrine consist of human nails and other bodily fragments; these are guarded by the head of the tribe or clan.

The sacredness of kings, the power of their departed spirits, and the rites of ancestor worship are constant factors in Negro religion, yet beliefs differ in their intensity and in the elaboration of their attendant ritual. For the Ovimbundu (southwestern Bantu), kingship did not imply great elaboration of court life and ritual, yet the simple rites were of the same kind as those already mentioned. At the death of a king, slaves were beheaded and eaten. A king's head wrapped in oxhide became a sacred relic which was consulted on such important occasions as warfare, drought, or a long caravan journey. At intervals the head was provided with a new covering, and at this time an ox was sacrificed.

G. P. Lestrade (Editor Duggan-Cronin, 1929, vol. 1, section I, p. 17) points out that "Venda life revolves round the chief. He is the absolute lord and master of his people in a way which all iconoclastic influence of white contact and white government has done little to diminish. Indeed, at a certain age he becomes a god, when after abjuring all contact with women, and ridding himself of his wives, he performs the dance which confers godhead upon him."

SUMMARY

The ideas involved in the sacredness of kingship are of a kind that might develop independently, and outside Africa such concepts are widely spread, as Sir J. G. Frazer has pointed out in "The Golden Bough"; but the part played by diffusion as opposed to independent invention remains undetermined. So far as Africa is concerned, the

concepts, together with the ritual that expresses them, may have originated in Egypt. The sacredness of kingship has been broadly dealt with by A. M. Hocart (1936).

The king of Egypt was the son of Horus the Great, whose attributes were later taken by Ra, the Sun god. The king, who was believed to be a god, was worshiped as such, and his statue was placed among those of the gods. Statues of Ra were endowed with the "fluid of life," which they transmitted to the king by contact. Each day the king performed a sacred exercise to renew his power; therefore he received the title "Endowed with Life, like Ra, for ever."

The deistic ideas associated with kingship, and the elaborate rites connected with royal ancestors, some of whom are deified, should be regarded as a constant aspect of Negro religion, varying in intensity of development, but in no way isolated from other phases of ancestor worship. All ancestors, even those of the most lowly commoners, are sacred, though remoteness in time and the lack of organized ritual may cause a decline in the ancestral power. Yet each Negro family has gods of the hearth who are intimately concerned with health and fecundity. No matter of family concern, be it so trivial as the sickness of a domestic animal, is beneath the notice of the ancestors.

The family ghosts can be benevolent or vindictive. They must be placated by sacrifice at the hands of a medicine-man or the head of the family. This intimacy between the sacred and the profane worlds can be shown as the essence of Bantu religion, and despite the special developments that we have recognized with regard to deism and ritual, the daily contact with proximate and lowly ancestral spirits is fundamental in all Negro religion.

SURVIVAL AFTER DEATH, AND ANCESTOR WORSHIP

BANTU

Beliefs of the Ovimbundu with regard to survival after physical death, and practices for securing the assistance of ancestral spirits, are typical of those prevailing among all Bantu Negroes. The words *ekisi* and *ocilulu* mean a disembodied spirit, but the word generally used for soul or spirit is *utima*, the heart. So far as could be ascertained these words are synonymous, and they do not refer to separate spiritual counterparts of the physical body. Yet it is certain that some Bantu and Sudanic Negroes believe in the existence of separate souls which dwell in one person, and at death the multiple souls have different fates. Such souls, though distinct, form a unity.

Ovimbundu spirits of the dead are in two divisions: the *olosande*, who are good and benevolent, and the *olondele*, who are malevolent. In this class are included the spirits of suicides and of those who were wicked or discontented on earth. All spirits are feared, especially those of the *olondele* group, and to approach the *olosande* the services of a medicine-man are usually required.

Spirits move by night, and whistling should be avoided, since the sound calls ghosts. Evil spirits who are afflicting a child can be deceived by changing the name of the sufferer. The rites of exorcism, of divination with a basket of trinkets, and the consultation of wooden figurines are described in connection with the medicine-man. In the chapter on "Economic Life," data are given to illustrate the way in which the hunter and the blacksmith depend on ritual which is associated with the activity of spirits.

The helpful nature of the *olosande* is indicated by the words of a sick person, who, failing to recover, says, "I have no more *osande*." Esuvi is a bird that flies by night, and it is believed to have the power of killing spirits, who die a second death, after which they can no longer be helpful to the living. A man who failed to recover his health after treatment by a medicine-man said, "The spirit of my grandfather has been caught by esuvi," meaning that a protecting influence had been withdrawn from the living relative.

Funeral rites of the Ovimbundu indicates a belief that the spirit remains near the dead body for several days. On the third day after death the coffin is fastened to a pole which is supported on the shoulders of two men (Fig. 82, *a*). An old man questioned the corpse, saying, "Today, my boy, we want you to make us glad; tell us all that takes you from earth." While asking this question, the interrogator held out food on a platter, and the mourners watched for a movement of the pole on the shoulders of the bearers.

In reply to the question "Were you poisoned?" the spectators declared that the coffin-pole swung backward, so indicating a negative. A prolonged interrogation resulted at last in a positive answer to the query, "Did you die from pains in the belly?" One of the questions asked has an important bearing on all Bantu procedure connected with death. The interrogator demanded, "Is it witchcraft that hates us and killed you? If it is witchcraft, come to the front." An affirmative answer would, before European control, have led to a process of divining to find the worker of anti-social magic. Such a person, named *onganga*, would have been compelled to take the poison ordeal.

Preparation of the body suggests a fear of a wandering ghost, for the great toes are tied together and the upper arms are bound to the torso with bark thongs. The mourning rites observed by a widow further imply a fear of a ghost which has to be placated. A widow must leave her hair loose and without ornament, and she is covered from crown to sole in cloth. For three days she has to sleep close to the corpse of her husband, with only a thin stick between them. During this time she has to abstain from food, and her wailing is almost continuous. After the corpse has been prepared for the rite of questioning, as described above, the widow bids farewell to the dead. Relatives hold the corpse upright and carry it toward her while she is held by other relatives. At the end of a year of mourning, and after a ceremonial feast and drinking of beer, the widow is free to remarry. These proceedings of the Ovimbundu have their parallels, or even their exact facsimiles, in many Negro tribes, both Bantu and Sudanic.

E. Torday (1928c, pp. 225-245) states that among several tribes of the southwest Bantu each person is believed to have two souls, a spiritual soul, *moyo*, and a sensory soul called *mfumu kutu*. The functions of the spiritual soul are to think and to will, while the sensory soul perceives through the senses. The sensory soul leaves the body during sleep and fainting, but the spiritual soul adheres more closely to the body, since it is distributed through the blood, though more of this soul exists in the heart and liver than elsewhere. The fact that the spiritual soul is believed to be distributed in the blood accounts for the importance of blood in religious and magical ceremonies, including the making of charms in which blood is an ingredient. The process of drying a corpse over a slow fire is carried out to liberate the soul from the blood so that the spirit can join the ancestral ghosts.

In most Bantu languages, the words for "embodied soul" and "disembodied soul" are distinct, according to W. C. Willoughby (1928a, pp. 338-347). Bantu Negroes think of the soul as an entity that can leave the body during sleep, and the idea of a soul entering temporarily into an animal is widely distributed among Negroes. R. S. Rattray (1927a, p. 93) mentions "dream adultery" whereby a sleeper, on waking, is held responsible for the actions of his errant soul, if he is foolish enough to narrate his dreams.

Willoughby thinks that the Bantu generally believe that a soul enters the fetus at the time of quickening, and he describes a Bantu belief that the spirit of a dead child haunts the place where the infant



a



b

FIG. 82. Funeral rites. *a*. Bearers of a corpse, Ovimbundu, Elende. *b*. Grave near Caconda, Ovimbundu tribe.

body was buried. Women passing such places are likely to become pregnant. Beliefs in reincarnation, and the practice of divination to discover which ancestral spirit is within the newly-born child are of wide distribution. Usually commoners sacrifice only to their immediate ancestors, but the souls of chiefs receive sacrifices and petitions for centuries after their death.

Despite a general and well-established belief in the continued existence of souls, there exists a ritual for destroying them. Instances of destroying the soul are found in connection with executions, warfare, and head-hunting. A draft of poison before execution, burning a corpse, or eating the body are methods of destroying a soul whose vindictiveness is feared.

Other general beliefs mentioned in Willoughby's study of Bantu concepts of the soul are the presence of the spirit near the corpse for several days after death, the retributive conduct of neglected ancestors, and the preservation of social status in a world of spirits; a chief remains as such, while slaves continue their servitude.

The direct manner in which Negroes address ancestral spirits is shown by R. P. J. van Wing (1930, pp. 401-428). "In their magical formulae and in their prayers, one can discover, not so much individual and passing sentiments, as the soul of the whole people." There is a process of direct bargaining with the ancestors when supplication is made for curing the sick. "The ancestors are informed that they will receive the honours they claim on condition that they restore the health of the patient and the prosperity of the clan." The burden of most supplications is desire for fecundity, good crops, relief from sickness, and aid in combating witchcraft.

The observations of A. T. Bryant (1917, No. 95) indicate that according to Zulu philosophy man is composed of two parts, the body and the spirit or soul. In addition to these, the concept of a human being includes an entity whose name can be translated by the words heart, feelings, or mind. There is also something meaning intellect, memory, and understanding. A final part or aspect is the shadow or personality. The relationship of these things to each other and their fate at death does not seem clear in Zulu philosophy, though general beliefs and practices favor the hypothesis that all these aspects of a human being accompany the departing life.

"The Zulu religion makes no definite statement on the doctrine of the immortality of the soul. The soul survives death, and is offered sacrifice practically continuously throughout an indefinite period of time; but how long it will continue to live, and whether

or not it will endure for ever, is not defined." The spirit materializes into a snake of a non-poisonous kind which can be recognized by bright green color with black marks. The kind of snake and the size are clues to the status of the visiting ancestor. Old women prefer to take the form of small lizards.

"The only spirits that now really matter, that actually enter into the practical religion of the present-day Zulu, are the spirits of his father, his grandfather, and his other immediate ancestors. These he feels he knows, and they alone, he assumes, have any present interest in him." Any neglect of sacrifices will be visited with reprisals, such as infliction of barrenness on wives and sickness on children. The diviners act as intermediaries between the living and the dead by use of various techniques that Bryant describes in detail.

Ideas of the Zulu correspond closely with those recorded for the Bakongo and other Bantu tribes. "The Zulu sacrifices and prays to the spirits only when he wants something," and the bargaining process is shown in the address to the ancestors. The words, which are spoken as soon as the sacrificial ox has been speared, are: "Take ye and eat, that thereby this child of ours (who is sick and whom you are taking from us) may be restored to health and to us." If the matter is of national rather than family concern, the king sacrifices to the Greatest-great-ones, his own direct ancestors.

An eastern Bantu tribe, the Wanyamwezi, make the usual distinctions of rank among ancestral spirits. The most important ancestors are those of kings and medicine-men, and in view of the national importance of these spirits appeal is made to them by the king, on recommendation of the medicine-man *mfumu*, during times of drought and disease. Family ancestors are grouped in two categories, as with the Bathonga. Ancestors in the paternal line are *ku buta*, and in the maternal line, *ku migongo*. Sacrificial rites to ancestors are typically a family concern, and the presiding priests are a grandfather, a father, or the oldest son of the family. There are, however, special instances in which a *mfumu* officiates. The spiritual relationship of a family to the ancestors is that of supplicants who do homage and make gifts in return for concessions (F. Bösch, 1925, pp. 200-209; 1930, pp. 105-167).

WESTERN (SUDANIC) NEGROES

Beliefs and practices relating to ancestor worship, and the functional aspects of religion are similar among Sudanic and Bantu Negroes. R. S. Rattray (1927a, pp. 153-156) emphasizes the practical

importance of lesser gods and ancestral spirits in the daily life of the Ashanti, though S. Clarke (1930, pp. 431-470) thinks that the sociological significance of ancestor worship has not been sufficiently stressed by Rattray. Yet, despite Clarke's criticism, the observations of Rattray are quite clear on many fundamental and practical aspects of Ashanti religion.

The Ashanti believe in a plurality of non-corporal elements, each of which has a distinguishing name. The *kra* is a spiritual part of a human being, and during the life of a person to which it is attached the *kra* leads a separate, shadowy existence. When a person is dying, his *kra* leaves him gradually, and the difficult breathing of the dying person is said to be due to the exertions of the *kra* in climbing a hill in the spirit world. The *kra* is thought to have been in existence before the birth of the person to whom it became attached; it is a spirit waiting for reincarnation. The Ashanti have other words to describe spiritual parts that do not perish with the body. *Saman* is a ghost; *samanfo* means an ancestral spirit. A *sasa* is a spirit of either a human being or an animal which can disturb the living by casting a spell that only magic can avert. Hunters, butchers, and executioners are likely to be haunted by a *sasa* if precautions are not taken. A *sunsum* is the part of a person that wanders when he is asleep. The *ntoro* and its sociological functions have been explained. The *obosum* is the spirit of a *ntoro* totemic division.

In common with all Negroes, the Ashanti believe in the vindictiveness of ghosts, which may cause barrenness of women, sexual impotence of men, sickness, and misfortune. Widows mourn to satisfy the ghosts of dead husbands, and the belief prevails that a widow who has sexual intercourse within the year following the death of her husband will be barren or die. The new husband of a widow has to make a propitiatory offering to the ghost of the former husband. This is the fearful and negative side of respect for ancestors; the positive rites, both family and national, are of the usual type in which offerings are made and favors are asked.

The wandering of a soul, its objective nature, and the dependence of bodily welfare on the actions of a soul, are exemplified by L. W. G. Malcolm (1922, pp. 219-222). The Efik of southeast Nigeria call the bush soul *ukpon*, and if an animal that is holding the *ukpon* falls sick or dies the owner of that soul suffers. At Old Calabar, a man begged for the release of a trapped leopard on the ground that the animal held his bush soul. A man who wishes to injure

an enemy pays a visit to a medicine-man to discover what animal holds the *ukpon* of his foe. Injury can be inflicted by trapping or killing this creature, but if the plot is discovered a trial by ordeal will result and the punishment will be severe, since this is anti-social magic.

The functional aspects of ancestor worship, and the intimacy of religious exercises with everyday life of the Dahomeans, indicate that the principles and practices of ancestor worship for these Sudanic Negroes are the same as those of the Bantu, but religion of Sudanic Negroes is elaborated in all its aspects. Family religion among many Bantu tribes is exemplified by the simple rites followed by the Ovimbundu. The chief cult object of the home is a wooden figurine whose hollow abdomen is filled with medicine by the *ocimbanda*. Then follows a consultation between the *ocimbanda* and the figurine, which is a temporary shrine for an ancestral spirit.

In Ashanti and Dahomey, the family arrangements are more elaborate. M. J. and F. S. Herskovits (1933, pp. 69-74) describe the walled compound of an extended family with its shrine to Legba and a small square house for worshipping individual ancestral spirits. Inside the house of the first wife is an altar to Minoia, the goddess of women, and another altar for Hweli, protector of the household. Herskovits describes the promises of a man to his Vodou, the non-fulfilment of the obligation, the divination to find what Vodou is incensed and why, also the placation of the Vodou. The differences between Bantu and Sudanic religious practices are chiefly of degree and not of kind.

NILOTIC NEGROES

Dr. C. G. Seligman states that among Nilotic Negroes, especially the Shilluk, the ancestral cult is overshadowed by that of Nyakang. Yet there exists more feeling for and fear of dead ancestors than a cursory investigation would suggest. Often there is difficulty in showing the observance of sacrifice to ancestors, apart from that which is associated with the cult of *royal* ancestors.

But the data given by C. G. Seligman (1931, pp. 1-20) prove conclusively that ancestor worship of the kind observed among Bantu and Sudanic Negroes is characteristic of some Nilotes. The Dinka believe that each human being has a soul or spirit, *atiep* (shadow), which at death remains about the house or becomes associated with the shrine, *buor*, which is prepared for it. The *atiep* may appear to the living in a dream to ask for food; then the dreamer

in order to escape sickness or other reprisal from an offended spirit, mixes durra with fat and places this in a pot in a corner of the hut.

The word *jok* is reserved for powerful ancestors who died long ago; some of these *jok* are the spirits of founders of clans. The spirit of an animal ancestor is a powerful *jok*. The *jok*, like the *atiep*, are guardian spirits of house and clan; both are vindictive if annoyed or neglected. Men and women who can see the *atiep* and *jok* are called *tiet*. These gifted persons communicate with the ancestral spirits to discover what spirit has been offended, what has caused displeasure, and what sacrifice should be made in placation. A close connection exists between the cult of the dead and the totemic belief concerning reincarnation of an ancestor in some animal which becomes emblematic for the clan. This totemism is a special development of religious belief among the Nilotes; similar beliefs exist among some Bantu and Sudanic Negroes, but not usually with the same emphasis as among the Nilotes.

P. W. Hofmayr (1911, pp. 120-131) agrees that in general the ancestral cult of the Shilluk is restricted to worship of the spirits of higher chiefs and kings. But each house has its own ancestral spirits who are interested in the family. Graves of immediate family ancestors are revered, and the following procedure shows a close similarity between family rites of the Nilotes, and those practices which are characteristic of Bantu and Sudanic worship of immediate and lowly ancestors. For the Shilluk, states Hofmayr: "A father who intends to dispose of his daughter in marriage goes to the grave of a family ancestor and prays, 'Lord! here I bring my child; bless her! thou knowest whether her way will be straight or unlucky. I offer a little sheep whose blood will penetrate to thee through the earth and speak for me and my child.'"

ANCESTORS AND CANNIBALISM

In addition to the kingly office, the employment of medicine-men, and the use of shrines, prayer, and sacrifice as means of establishing contact with ancestors, cannibal rites are of local importance. E. Torday (1913, p. 83) has pointed out that the Banyanzi were not ashamed of cannibalism and expressed a preference for human flesh; but, generally speaking, cannibalism has a ritual aspect, which has previously been mentioned in relation to warfare and head-hunting.

J. Roscoe (1924, pp. 40, 140, 147) believes that cannibalism among the Bagesu and other northern Bantu is a ceremonial feast

in honor of the dead. Only certain clan members eat the flesh, and only selected parts of the corpse are cooked. The evidence adduced when describing secret societies showed the ritual importance of cannibal rites, and it is a general truth that medicine-men regard portions of the human body as potent ingredients. Medicine-men disinter bones of the dead, and the remains of medicine-men are regarded as specially efficacious. This is distinctly a form of ceremonial cannibalism. The whole of the evidence for cannibalism in the plateau belt of central Nigeria emphasizes the ritual importance of the institution. The alleged reasons for cannibalism among the Angas appear to be contradictory. On the one hand, the soul of an *enemy* is destroyed by eating his flesh, but, on the contrary, the soul of a *relative* can be sent to the spirit world if he is killed and the flesh is eaten ceremonially. Cannibalism can function as a special form of sacrifice for maintaining connection with ancestral ghosts, for among the Angas, although flesh from the head of a relative is eaten, the skull is preserved in a pot which becomes a shrine or altar for family ancestor worship (Meek, 1925, vol. 2, pp. 48, 53-58).

CONCLUSION

Consideration of ancestor worship and of survival after death establishes uniformity of fundamental beliefs and procedures among all Negroes. The departed spirits of kings, chiefs, and important rain-makers are of tribal concern; they are venerated for long periods with elaboration of ceremonial at which a reigning king or chief acts as high priest to gain ancestral blessings. But likewise important, though generally restricted to the family or the clan, are the ancestral spirits of people of low social status. Between the spiritual and the profane worlds these spirits come and go at will. By sacrifice they are cajoled; they are human in their wants and jealousies; but by the use of correct ritual their aid in all matters of family concern can be solicited. That supplicants of these immediate ancestors are chiefly concerned with obtaining material benefits is beyond dispute; but what are the controlling relationships between deism, ancestor worship, and human conduct?

RELIGION AND CONDUCT

Ancestor cults are the core of Negro religion, but are the ancestral spirits concerned with morality? Do the ancestors care about theft, hospitality, and fair dealing between men? Are the ghosts concerned about adultery, breach of kinship rules, and homicide?

In connection with a study of law, evidence was adduced to prove that, after legal obligations had been discharged with respect to theft, murder, or adultery, some rite was necessary to emphasize a settlement among litigants, and with the ancestral spirits as well. But despite such instances the impression is left that a murderer is primarily concerned with appeasing the ghost of his victim, and with the payment of compensation to relatives of the murdered man.

But instances showing definite influence of ancestral commands on conduct are not lacking. L. W. G. Malcolm (1925, No. 69) states that among the Efik the marriage ceremony is closely connected with the ghost cult of the tribe. A bride must promise on oath that she will be faithful to her husband, and violation of the oath is believed to cause sterility. According to R. M. Downes (1933, p. 71) the sanctions and taboos which make up the customary law of the Tiv are imposed on society by ancestors. Everything is said by the old men to have been given by the "men of old," and this custom has a spiritual sanction. I. Q. Orchardson (1932-33, pp. 154-162) reports that the Kipsigis believe that anti-social behavior of all kinds is an offense to the ancestors, who retaliate by causing sickness. He does not believe that the phrase "appeasing the ancestors" is a correct description of the attitude of the Bantu toward ancestral spirits. Yet, despite Orchardson's opinion of Kipsigi rites, the body of evidence shows the Negroes' ancestral cults as a chaffering and bargaining; there are promises, procrastinations, fears, divinations to discover the extent of ancestral displeasure, and final compliance is made to avert ancestral reprisals.

In discussing the question of supernatural penalties among the Baganda, L. P. Mair (1934b, pp. 254-256) states that retribution may follow the eating of the totem animal of one's clan, the violation of rules of avoidance between relations-in-law, or indulgence in adultery, especially under certain circumstances. In most of these instances, the person who suffers is not the one who commits the offence; it is the husband who dies because of his wife's misconduct during his absence. The idea behind this concept of punishment is not that a supernatural being has been offended; neither is there belief in an impersonal and mysterious force. The Baganda say, "It is the sin itself which kills."

The eschatology of Negro religion fails to show that the wicked, that is, the anti-social individuals, such as wizards and despotic rulers, are punished in a spirit world. Ghosts of bad persons are feared, since they are thought to do harm to the living, but these

ghosts are not segregated and punished. On the contrary, they continue their evil practices. In a subconscious way, the fear of ancestors may influence all conduct, and the force of ancestral wishes is often clear in relation to incest and prohibited degrees of marriage. But, generally speaking, the ancestors are more concerned with their own dignity, the mourning rites due, and the sacrifices expected, than with the conduct of one man toward another.

SACRED ANIMALS

Consideration of the social, religious, and economic life of Negroes reveals many attitudes toward the animal kingdom that are of fundamental importance in tribal life. The special regard for cattle which makes the herds a focus of religious ceremonies, a basis of all social organization, and in some areas the only means of livelihood, has been described in connection with the pastoral culture (section II). This culture provides the most instructive instance of specialization, with domestic animals as the psychological and sociological focus. But beliefs and ceremonies equally important are connected with many feral species.

A comprehensive survey of beliefs, cults, and definite systems of animal worship has been made by J. Weissenborn (1905, pp. 92-165), who describes totemism, cults, and acts of worship, together with miscellaneous beliefs in transformation and transmigration of souls. The main facts of totemism were discussed in connection with organization of the clan and the reincarnation of ancestral spirits, and a distinctive feature of totemism was found in the fact that totemic beliefs are centered about a species, whereas animal worship is the veneration of several individuals of a species that are kept in captivity.

With the exception of totemic beliefs, ideas relating to well-defined systems of worship of the python and the crocodile are the most important instances of reverence for animals. Data relating to the worship of pythons, together with a classification of beliefs and ritual acts pertaining to other kinds of snakes, have been collated and classified in "Serpent Worship in Africa." This publication deals with the historical aspects of the problem of serpent worship, the distribution of different types of belief and ceremonial in Africa, and the psychological and sociological concepts that are involved (Hambly, 1931a).

At Ibadan, Southern Nigeria, a white crocodile is kept in captivity in charge of a priest, and this instance seems to be a late

survival of what was a widely distributed and well-defined cult less than fifty years ago (Fig. 83, *b*). P. W. Hofmayr (1911, p. 124) mentions that the Shilluk believe that Nikaia, who is the mother of the deified king Nyakang, takes the form of a crocodile, but this disguise she abandons in order to appear as a child. Nikaia is concerned with the welfare of mothers and their children. Offerings of food are made to this crocodile goddess on the bank of a river. G. L. Ponton (1932, pp. 236-240) has described the feeding of a sacred crocodile, which is not in captivity, in the canton of Réo, district of Koudougou, west Africa; but references to cults of crocodiles have not been collated and discussed with regard to their functions, and their historical and psychological relationship to python worship.

The principal centers of python worship were Dahomey, southern Nigeria, and a small area south of Lake Victoria Nyanza. In Dahomey, the python became at times a shrine for the reception of a god, to whom the priests and priestesses had access. In addition to feeding the pythons, the acolytes conducted dances, carried the python in a procession, and made oracular utterances. The python has been commonly associated with fertility of the soil and human fecundity.

Python worship should not be regarded as a trait which is isolated from other aspects of Negro religion. The python is a sacred medium by which contact is made with a spirit world in order to secure benefits; therefore, the worship, with its temples and priesthood, its sacrifices and ceremonies, is functionally a part of ancestor worship.

DRIBERG'S SUMMARY OF NEGRO RELIGION

The fundamentals of Negro religion have been summarized and discussed by J. H. Driberg (1936), who has valuable criticisms and hypotheses to offer in relation to all aspects of religious belief. Driberg has no hesitation in affirming that the religious belief and philosophy of the African are fixed primarily on the concept of a universal Power or Energy which is the cause of all life, and secondarily on deifications that develop in two distinct ways.

Criticism is levelled against the use of European terms, with their allied European concepts of "high gods," "soul," "prayer," "worship," "sacrifice," and "shrine." The European concept of deity when applied to analysis of Negro religion leads to a misconception of Negro gods as otiose. Yet gods in the stricter sense of European terminology do exist, but only as a rare by-product of the Negro ancestral system. I think, however, that this opinion needs some



a



b

FIG. 83. Sacred reptiles. *a*. Python which has swallowed a goat, eastern Congo. Photograph by E. Heller. *b*. White crocodile, Ibadan, Nigeria.

modification, since our survey of western Negro religion revealed the gods as something far more vital than a mere by-product.

Driberg agrees with most ethnologists in stating that "our sharp distinction between life and death is not a valid one to the African, who sees in death only a change of status. Clans consist of the living and the dead on a complete parity, and the social organization of the living community continues to operate beyond the grave. The elder who dies and is accorded appropriate mortuary ceremonies, which are rites of transition granting him admission to his new status, assumes a status senior to the living elders, but all within the framework of a single organization.

"The theory of soul-inheritance, which is what reincarnation amounts to, together with the possibility of the substitution of a contemporary's soul, is no more than a translation in terms of metaphysics of the classificatory system common to all African societies." When a dead ancestor acquires a tribal character he cannot be reincarnated, because his tribal function has set him apart from the main line of family reincarnation, and after the second generation he remains isolated as a culture hero about whom a mythology aggregates. These observations of Driberg's are in accord with my previous quotations from H. A. Junod, relating to the gradual evolution of tribal gods among the Bathonga.

MEDICINE-MEN

Study of Negro religion has presented a picture of parallelism and close contact between worlds of the living and the dead. The conception is utilitarian because the good will of the dead is essential for the welfare of the living. Contacts with the souls of the dead, no matter whether these are kings or lowly ancestors, have to be made through recognized mediators. Heads of families, reigning kings, special priesthoods, shrines, sacred groves, sacrifices, and prayers have been shown as the essentials of ancestor worship. But the office of medicine-man is equally important as a link between realms of the flesh and the spirit.

Ethnological study does not provide satisfactory definitions of magic and religion, and speculation respecting the distinctions between priests and medicine-men, and between prayers and spells, are only tentative attempts to explain the nature of relationship between the physical and the spiritual worlds. D. Westermann (1934, p. 187) explains the way in which magic and religion may be associated among the Ewe and Akan, who can change magic into a

deity. An object used effectively in magical practice may become a deity and the center of a cult whose priest is the man who discovered the magic.

The medicine-man himself is an empiricist who probably has no theories to explain his procedure, but he believes, and so do his clients, that certain ritual will produce desired results, provided no stronger power is exerted against him. European observers are sometimes too eager to supply a rational foundation that does not exist in the mind of the Negro practitioner, and this kind of nimble philosophy may be nowhere near the truth. The thoughts of medicine-men are, however, not always obscure. It is clear, for instance, that an *ocimbanda* of the Ovimbundu, when shaking his divination basket, believes that he is making contact with spirits of the dead, for his declarations plainly state that this or that ghost is the cause of sickness or other trouble. In rain-making, the symbolic acts are evidently used as a sympathetic inducement of actual rainfall; as, for example, when the medicine-man reaches up with his hands, goes through the motion of drawing down rain, and of spreading it on all sides. The use of hair clippings, of human nails, and the driving of iron spikes into a wooden figure to injure an enemy, are all common instances of induced results that are secured by a sympathetic process. Trial by ordeal suggests that some person or power more potent than man is making a decision, yet the identity of the person or power is not known. But to speak of "sympathetic magic" as in rain-making or injuring an enemy, is merely to find a convenient term which gives no explanation of the working of the process.

A point of practical importance, and one that provides data for psychological speculation, is the difference between medicine-men who are respected for their social services, and the anti-social wizards and witches who are sought out and executed. Among the Ovimbundu, the honored practitioner is *ocimbanda*, while the worker of evil magic is *onganga*. In many Negro tribes, a terminological distinction of this kind exists, and often the legitimate medicine-men have as one of their main tasks the discovery, by poison ordeal or otherwise, of anti-social magicians.

In attempting to distinguish between types of magic, E. E. Evans-Pritchard (1928a, pp. 1-53, 1937) shows that views of Negroes respecting permissive and evil magic do not coincide with opinions of Europeans on this subject. The Azande believe that good magic acts in favor of justice and order, while evil magic militates against these conditions. To the Zande, witchcraft is *mangu*, a hereditary

trait that can be discovered in the stomach of a witch. *Mangu*, therefore, is a physiological fact, and a hereditary possession that does not require the use of taboos, spells, rites, and cult objects, all of which are necessary to legitimate magic, called *ngwa*.

The idea that witchcraft results from physiological causes is supported by evidence from several tribes other than the Zande. H. A. Junod (1912, vol. 2, p. 461) states that among the Bathonga witches are known as *baloyi*, or people who have the evil eye. The power to give a baneful glance is hereditary in the female line and it must be sucked from the mother's breast, then stimulated with drugs. The *baloyi* know each other and form a secret society that meets at night to eat human flesh. N. W. Thomas (1916, vol. 1, p. 46) refers to a belief that "a witch is born and not made." A witch mother eats human flesh, and her unborn child absorbs some of the cannibal feast. According to R. S. Rattray (1932a, vol. 1, p. 240), the Nankanse believe that inheritance of witchcraft is in the female line only. When an attempt is made to discover witchcraft by ordeal, the test is applied only to descendants of a witch in the female line. The distinctions between medicine-men and witches (or wizards) have not been fully investigated with regard to natural endowments, training, equipment, and performances, but the data given here suggest a fundamental physical distinction.

In addition to the difficulty of formulating distinctions between workers of altruistic and evil magic, there is uncertainty in classifying ritual and material used. The Zande have a medicine named *gbo* that can be used either legally or anti-socially. A recognized social use of *gbo* occurs when the medicine is employed to enable a man to carry on the blood feud by murdering one of his antagonists. Family honor calls for reprisals, and *gbo* is legitimately used in this connection. On the contrary, a medicine-man sometimes uses *gbo* to assist one of his clients in committing an unprovoked murder; and in such an instance the medicine is illegally employed.

Although the terms priest and medicine-man are indefinable, certain distinctions can be made when examining concrete instances. A father and his two sons (Fig. 84, *a*), who conducted me to a sacred grove at Ifé in Southern Nigeria, might rightly be called priests. These men perform none of the tasks of divination, rain-making, concocting medicines, or making charms. Their office, which is hereditary from father to son, consists of taking charge of a box of terra-cotta heads in a sacred grove. The dress and bronze staffs are distinct from those used in any other office, and these



a



b

FIG. 84. Sacred groves. a. Priests of Ifé, Nigeria, in charge of terra-cotta heads. b. Terra-cotta heads in sacred grove, Ifé.

men alone know the actions and utterances that are a necessary prelude to opening the sacred box. A king who performs rites in connection with ancestor worship is exercising a priestly function. An attendant whose only function is to guard and replenish the sacred fire in a hut where kings are buried, as at Ngalangi in Angola, is a priest who has none of the duties that are associated with the different classes of medicine-men in that region.

R. S. Rattray (1927a, p. 38) without attempting definitions brings out some distinctions between priests and medicine-men in Ashanti. Priests and priestesses have a training that differs from that of medicine-men, and the two classes draw their power from different spiritual sources. The terms used help to explain the different concepts. *Dunsefo* is a "worker in roots" who specializes in therapeutics and asserts that his skill has been acquired from the fairies or "little folks," who are thought to be speedy messengers of the gods. Wizards, who work anti-social magic, are thought to be in league with the *sasabonsam*, a hairy creature of the woods.

Priests and priestesses adopted their profession because they heard the voice of Tano or fell down in a fit. The initiatory rites, which extend over a period of three years, are designed "to make the god stay with them," and during the initiatory rites the novice receives *suman* or charms to wear. The source of priestly power is shown by the invocation made while offering sacrifices. The priest then says, "Ye gods, ye ghosts, supreme being, spirit of the earth, come and accept this wine. Stand behind me with a good standing, and let me be possessed with a good possession." Yet the same priest learns the art of divining by water-gazing and examining the kidneys of a fowl; therefore, his priestly functions include the duties of some medicine-men.

Preparation for the position of medicine-man or medicine-woman is a simple procedure in many Bantu and other Negro tribes; the formalities connected with this office among the Ovimbundu are an illustrative example. The position of medicine-man is not necessarily hereditary, though this is so in some instances. The general Umbundu name for medicine-man or medicine-woman is *ocimbanda*, but the female practitioner is sometimes called *cambula*. Her services are always required in cases of difficult delivery, and she makes the facial paintings on pregnant women. Any boy or girl who wishes to become *ocimbanda* visits a medicine-man, generally because of some physical or mental disturbance. The *ocimbanda* shakes his divining basket and comes to the conclusion that a spirit,

often that of a relative, wishes his client to become *ocimbanda*. It is said that a boy or girl must have "spirit in the head" in order to become *ocimbanda*. The Ovimbundu do not intensify natural nervousness and a neurotic condition by seclusion, starvation, and harsh treatment, all of which are part of the preparation for office in many other parts of the world (Hambly, 1926a, pp. 256-259). In each village there are usually several men and women, each of whom has the title *ocimbanda*. This is so because of the high degree of specialization in rain-making, divination with the basket, and treatment of the sick with herbs; the Ovimbundu, in common with many Bantu tribes, have an extensive pharmacopoeia.

FUNCTIONS OF MEDICINE-MEN

The following activities of medicine-men are typical for Negro tribes, though all of these procedures are not to be found in every tribe.

(1) *Making accouterments*.—These objects, which are designed to make the medicine-man impressive, comprise suits of plaited fiber, masks of many kinds (Fig. 87), feather head-dresses, skins of animals, rattles, drums, whistles, switches of hair with wooden handles, paints for applying to the face and body, and a variety of charms and amulets.

(2) *Divination*.—Four of the main processes are: (a) Shaking the trinkets contained in a gourd or basket and explaining the cause of sickness, or foretelling the future, by inspection of the contents after shaking. (b) Throwing bones (generally the astragalus bones of goats or sheep) and noting how they fall. This method, together with the divinatory use of wooden tablets with marks on them, is specially characteristic of southeast Africa. (c) Rubbing one block of wood with another which has been moistened. As friction continues, names of likely culprits are uttered, and the rubbing-block is said to stick when the name of a guilty person is pronounced. This method is common in the southwest Congo area. (d) Haruspication, that is, the examination of entrails of slaughtered animals for purposes of prognostication. This method, which is commonly used in east Africa, has been described in great detail by D. Arnoux (1917, pp. 1-57), who gives explanatory diagrams.

The method of divination with a basket of trinkets, which is the chief technique of a diviner among the Ovimbundu, is typical of this procedure in other tribes. To the sound of a small friction drum played by his apprentice, the diviner shakes his head from

side to side to agitate his head-dress of colored feathers or porcupine quills. Meanwhile he sifts his basket gently to and fro as he concentrates on the changes that take place in the position of objects. Finally he inspects the contents to see what objects have come to the top. A little wooden figure with beads on the neck indicates that the spirit of a dead infant wishes to return. Prominence of two wooden figures carved face to face means that two persons are plotting a murder by poison. A piece of wood twisted like a snake indicates either binding or a painful illness of the consultant. If the medicine-man favors the inference of binding, the assumption is that the client will have some kind of forced labor to do, or he may be accused of a criminal offence. A wooden figure of a female with a large abdomen, when prominent at the top of the basket, indicates that the trouble under investigation arises from the dissatisfied ghost of a woman who died when pregnant.

(3) *Curing the sick*.—The methods are rational in some instances, for example, in treating snake-bite by ligaturing the limb, and opening and sucking the wound. In some regions, a sweat bath is employed. The vegetable drugs used by Negro medicine-men have not been extensively observed or analyzed. Possibly some of them are rationally used and have curative properties. By divination, the conclusion is reached that sickness of a client may be due to possession by a bad spirit, which is then exorcised, in a variety of ways, according to locality. Immunization by inoculation is mentioned by W. Cline (1936, No. 249). E. Scharrer (1936, p. 167) quotes references to show that an electric catfish is sold in the medicine mart of Lagos. Shocks from the fish are used in the cure of rheumatism. The process of cupping is shown in Fig. 85, *b*. In Fig. 85, *a*, the patient is seated ready for ceremonial washing to a drummer's accompaniment.

(4) *Rain-making*.—The ritual attains its highest specialization, and the dignity of the office is greatest among the Shilluk, Dinka, and Bari; the Lango also have a well-developed ritual connected with rain-making. But elaborate ceremonies are not confined to northeast Africa. The Bathonga of southeast Africa, when needing rain, used to send a young man into the sacred wood of the Matjolo clan. There the youth wandered until he died, and the people said that a god had taken him (H. A. Junod, 1912, vol. 2, p. 357). The Bavenda believe in a deity named Raluvhimba, who calls the tribal chief grandchild, and the chief uses the reciprocal term grandfather. The chief has the duty of supervising rites of rain-making. Each



a



b

FIG. 85. Curing the sick. a. Vachokwe tribe, Cangamba, Angola. b. The cupping operation, Vachokwe, near Ngalangi.

year a messenger, whose office is hereditary, is sent with a black ox to the dwelling-place of Raluvhimba in the Matoba Hills. Here the ox is set free to join the god's large herd of oxen, which have accumulated through these annual sacrifices. A voice accepts the sacrifice, and the messenger finds refreshment mysteriously placed under a tree (Stayt, 1931a, p. 231). Numerous tribes have rain-makers, whose performance is a simple symbolic dance carried out with no equipment other than a hair switch and a whistle.

(5) *Making charms*.—After divination, a medicine-man may prescribe the wearing of a charm. Two cowrie shells on a strand of fiber worn about the neck of a woman may give fertility, as among the Ovimbundu. Horns and carapaces of tortoises are used by many tribes as receptacles for suspending round the neck. The concoction within these receptacles has magical virtues, and sometimes a little of the medicine has to be eaten every day. C. K. Meek (1931a, p. 302) mentions a Jukun belief that eating a mixture containing dried portions of the penis of a manatee gives virility. A woman will return to her husband if a parasitic plant is buried under the path she frequents when visiting her lover. A viscous substance worn as a charm causes weapons to glance from the body. These examples are illustrative of thousands of like kind in which certain benefits are secured by a process of sympathetic magic in which symbolism is the agent.

(6) *Charge of ritual*.—Medicine-men perform special rites which are often of social importance, though not elaborate. Among the Ovimbundu, a medicine-man creates new fire by the twirling method when a new village is founded. This fire is distributed from the house of a chief to each home. A medicine-man ceremonially washes the king in water containing a few drops of blood from a sacrificed chicken. This is done in times of epidemic disease. Such rites are typical of many that are performed by medicine-men, with little formality and few regalia.

(7) *Administering ordeals and oaths, and pronouncing curses*.—The duties of medicine-men in conducting trial by ordeal and administering a sacred oath to witnesses were described in connection with law. Pronouncing curses is often associated with the use of wooden figurines into which nails are driven as a symbol of injury to an enemy (Fig. 86). A curse is pronounced as the nail is driven in, and the person against whom this magic has been performed must pay the medicine-man to have the curse removed. In this instance, the medicine-man is acting anti-socially, yet his



FIG. 86. Magical figure studded with nails, Loango Coast, mouth of Congo River.

performances are known and tolerated. This type of figurine has been described and illustrated by J. Maes (1930a, pp. 347-359).

(8) *Making contacts with souls of the dead.*—The simplest way in which this can be done is through use of the divination basket, whose symbolic objects indicate the activity of this or that spirit. The trapping of souls has been described, and this process is understandable if one remembers the tangible and separable nature of a soul which is free to wander. The subject of transformation, as well as that of transmigration, is not well understood, though the claims of some medicine-men are clear. A medicine-man can change himself into an animal (transformation), or he may be able to send his soul, or that of another person, into an animal (transmigration). Divination is sometimes practiced to discover what discontented ancestral spirit is within a troublesome wild animal.

(9) *Consulting with regard to dreams, taboos, and omens.*—An important part of a medicine-man's work is the interpretation of dreams, often by divinatory methods. For curing sickness, avoiding mishap during pregnancy, and guarding against misfortunes of all kinds, taboos are imposed. A client is informed that he can gain protection by observing certain avoidances. Omens of various kinds (and these include some dreams) are interpreted, often by use of a divination basket, throwing the bones, or some other method.

The interpretation of dreams is known as oneiromancy, and the explanation which dreams afford concerning a subconscious mental life is now of importance in modern therapy. Several ethnologists have reported dreams recorded among Negro tribes of Africa, but the available data relate chiefly to dreams and their interpretation by medicine-men, rather than to type dreams and the explanation of their contents. (See section I, chap. VI, Psychology.)

The following interpretations of dreams by medicine-men are illustrative of the ideas which Negroes often associate with their dreams. In Ashanti, with the assistance of an old woman and the aid of the gods (*obosum*), explanations, which are often the opposites of the dream experiences, are given. A man who dreams of gold will be poor, and, in general, dreaming of a desired thing means that the dreamer will never possess it. Dreams of the dead mean that the ancestors seen in the dream require a sacrifice. To dream of fish means conception. A dream involving loss of a tooth implies the death of a friend. Wish fulfilment is sometimes shown by dreaming of the place where game is actually found (Rattray, 1923, pp. 93, 192, 194, 197-200).



FIG. 87. Head-piece of wood covered with skin, to be sewn to a medicine-man's costume, Balessing tribe, Cameroons.

That symbolism plays a part in the interpretation of dreams is clear. Pulling up a mushroom suggests a funeral, since a hole is left in the ground. Dreams of snails also imply a funeral because ghosts are said to feed on snails. Dreaming of an elephant means that a king or a chief will die, since the elephant is a royal symbol. A woman who dreams of her dead husband will be barren, because contact with the dead is thought to cause this condition. The occurrence of type dreams such as those of flying, loss of teeth, and nakedness, which occur among many people other than Negroes, suggests a common human consciousness. There exists a possibility that many parallels in myth and fable have arisen independently among widely separated tribes, and among different races, as a result of dreams.

G. Beresford-Stooke (1928, No. 128) relates that the Akamba connect their dreams with ancestral spirits. Dreaming of the death of a relative or the burning of a house requires a ceremony the next morning. The dreamer drops a smoldering ember in water and prays to the ancestral spirits, asking them not to let the dream come true. A good dream likewise calls for ritual and prayer asking the ancestors that the dream may be fulfilled. A man who has dreamed that he has many cattle spills water slowly on the ground while invoking his dead ancestors thus, "Drink this milk and water, and send me the good things you showed me last night." Should the dream relate to pregnancy of a wife, the dreamer asks his ancestors that the child may be a son. In this instance, the relationship of dreams to ancestor worship is of exceptional importance. C. M. Doke (1931c, pp. 217-222) has recorded many dreams of the Lambas, with explanations current in the tribe.

Taboos observed by the Ovimbundu will serve to illustrate the types of prohibitions observed among Negro tribes in general. The procedure assumes that a certain condition reproduces itself or some similar state by contact or contiguity. Eating the flesh of a hare will give the fetus a split lip, and a pregnant woman who eats flesh of an owl will give birth to a child with abnormally round eyes. Yet some prohibitions do not appear to have an explanation. A medicine-man must refrain from dogs' flesh, and a king may not eat the flesh of any animal that has paws. In general, taboos are a protective mechanism of a spiritual kind, and, as R. R. Marett points out, there is a positive and a negative side to magic. Achievement of a purpose may be due to positive rites accurately performed, or to negative rites, which are taboos or compulsory avoidances.

There are omens, like taboos, which are explicable on the ground of contagious effects. Thus, an Oeimbundu who is proceeding to trial thinks himself unlucky if he meets someone carrying a bark rope, for this indicates that he may be tied. The sight of a snake holding a frog is unfortunate, and one who sees this should consult a medicine-man. The symbolism clearly expresses distress. A fly in the mouth is a good sign, since a fly knows where meat is kept and is leading the way to food. A stranger sitting in the guest house of a village regards the appearance of a dog at the door as a good omen, since dogs are sometimes fed. But if a goat appears, the assumption is that no hospitality will be offered, because goats are not fed; they have to pick up a living as best they may. Omens are closely related to taboos and the practice of divination. A client who is disturbed by what he regards as a prescience of evil consults a medicine-man, who, by divination, discovers the meaning of the omen and prescribes either a positive rite, such as sacrifice or the wearing of a charm, or a negative rite in the form of a taboo; that is, a prohibition against some action which might lead to fulfilment of the omen.

SUMMARY

The nature of taboo and its connection with magico-religious beliefs and practices have been discussed by R. H. Lowie (1920) and R. R. Marett (1907, pp. 219-234). The relation of magic to witchcraft among the Akamba has been examined by C. W. Hobley (1934, pp. 243-249), and Evans-Pritchard (1928a, 1931, 1932-33, 1937) has explained the psychological and sociological background of magical practices among the Azande. J. S. Lincoln (1935) has published a general textbook on the study of dreams.

Religion has been considered broadly as man's relation to the spiritual, and the essential point to grasp is the existence of two worlds that are similarly organized. The secular world is inhabited by human beings, who realize their dependence on a world of spirits of graded power. These spirits are the souls or ghosts of the dead ancestors, some of whom may attain the rank of tribal gods.

All the data discussed in this chapter are focused on one primary requirement, namely, man's manipulation of spiritual powers. These are separate from and more potent than his own physical and mental endowments. But though this superiority of the spiritual is admitted, man's attitude is one of deference combined with a great measure of confidence in his own ability to direct ancestral benediction for his own benefit, and to avoid ancestral displeasure.

With this object in view, an elaborate mechanism has been evolved. Kings, medicine-men, and the heads of families are the chief means of personal contact with the world of spirits. A king or chief is an effective medium because of divine power that is either innate or obtainable by ritual. A medicine-man owes his position to inborn psychic qualities that are fostered by a training designed to bring him into contact with spiritual power.

In addition to these personal agencies, the means of contact with spirits are those connected with sacrifice, prayer, groves, shrines, and innumerable sacred objects, including trees and animals. Such media may serve only as temporary shrines, but, according to animistic belief, the objects are necessary for the accommodation and localization of ancestral spirits to whom the appeal is directed.

That the religion of Negroes is functional in relation to government, law, and kingship has been demonstrated, and the belief in reincarnation of ancestors implies that the very existence of man is dependent on the cooperation of spirits from another world. A continued study of religion as a dynamic force will now be made in relation to economic life.

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VII. ECONOMIC LIFE

AGRICULTURE

Technique.—Typically the Negro is a cultivator of forest clearings, in which manioc, yams, groundnuts, sweet potatoes, and maize are cultivated. But this general view of Negro agriculture requires modification. The Ovimbundu are an example of a Negro tribe, or congeries of closely related tribes, that have moved southward from more densely wooded country to open plateaus known as the Benguela Highlands. The heat is moderate and the rainfall is adequate; therefore, the open areas have been used for extensive cultivation of maize. Cattle, too, have been acquired, though they are of social and religious rather than economic importance.

Moreover, the terracing of hillsides, as among the plateau tribes of Nigeria and the Nuba of Kordofan, is a well-known method of growing millet where the local topography does not favor extensive cultivation in large patches.

Terracing is practiced in Tanganyika by tribes in the neighborhood of Meru and Kilimanjaro, by the Wambulu (Iraku) in the north, and by the Wabena in the south (G. E. H. Wilson, 1932, p. 252).

Irrigation also is a local practice which is not typical of the agriculture of forest Negroes or of those living in areas that have a seasonal rainfall. Irrigation, like the cultivation of European vegetables near railways and mission stations, is local and sporadic. The Balante of Portuguese Guinea provide an instance of a Negro tribe with exceptionally varied food supply, including rice, maize, millet, palm oil, beans, tomatoes, gourds, papaya (paw-paw), bananas, cattle (milked by women), sheep, pigs, goats, hens, ducks, and fish (H. A. Bernatzik, 1932, vol. 1, p. 8). West Africa affords many examples of the conduction of water in shallow channels from rivers to the rice fields. The use of animal manures is not general, but fertilization is usually given by cutting and burning the bush to ashes; this is the general method of improving the mineral content of the soil. If crops fail, change of the village site is common.

Although primitive plows have been used in Egypt for several thousand years, their employment has not become general in Africa. Primitive plows drawn by oxen, asses, camels, or women are in use along the Mediterranean seaboard, and in some parts of Abyssinia and Somaliland. The Bari and Dinka have plows; so also have the agricultural sections of the Suk and the Turkana. But, broadly speaking, and making exceptions for sporadic introduction

of plows by Europeans, cultivation with the hoe is typical of Negro agriculture. The hoe blades of iron are made by local blacksmiths, though importations are now common. Usually the blade is fixed in a rough wooden handle of length varying from two to three feet.

Granaries are of many types (Fig. 88). The Ovimbundu build small thatched houses having mud and wattle walls, and the structures are raised several feet above the ground on poles. In the south of Angola, the Vakwanyama make baskets five feet high for storing grain, and each of these containers is raised from the ground under a thatched shelter. In French Niger Territory, I observed storage of grain in large earthen bins almost the size of dwelling huts. Other types of storage bins exist in great variety.

Division of labor between the sexes is important in relation to agriculture. H. von Baumann (1928, pp. 289-391) has studied this subject in detail and has prepared maps that are plotted to indicate a correlation between two social factors. Cultivation of the soil by women is a concomitant of matriarchal conditions, but where patriarchal conditions prevail, or show a mingling with matriarchal organization, males assist with hoe cultivation. The truth or falsity of the thesis naturally depends on rigidity of definition of the terms "matriarchal" and "patriarchal," but in fact there exist typical areas in which men never use a hoe, though they burn the bush and prepare for the work of their women. Again, there are regions where men prepare the ground by clearing the bush and also assist with the harvest, but they do not hoe the ground. In some regions, men assist with all agricultural operations.

Facts relating to agriculture among the Ovimbundu will serve to introduce several general principles of procedure in Negro agriculture, but my observations contain no reference to the importance of ritual, and, for this, recourse must be made to other Negro tribes, both Bantu and Sudanic (see section II, Culture Areas, chap. VI, Agriculture). For west African technique see Forde (1937b).

In addition to maize, beans, groundnuts, and sweet potatoes, the Ovimbundu cultivate five species of manioc, for each of which there is an appropriate method of preparation. The sweet maniocs are eaten raw, but this is not so with the bitter species. *Olungunga* is a bitter manioc whose roots are placed in a stream for four days before they are roasted, after which they may be eaten with impunity, since the poisonous principle has been extracted. Although the roots require this treatment to make them edible, the leaves may be

cooked as soon as gathered, but they should not be eaten while warm. Generally the leaves are served with salt and fat. Manioc is in use all the year, but the greatest quantity is consumed in November and December when the maize harvest is not due and supplies of grain from the previous harvest are depleted.

Sweet potatoes are placed in an earthen pot without removal of the skin. After a period of thirty minutes they are removed, peeled, and eaten. Over the top of the cooking pot a layer of fresh leaves is placed to keep in the steam. The first meal of the day is taken by most of the Ovimbundu very soon after six o'clock in the morning. One of the usual foods is meal sprinkled on water to form a mush which is eaten along with sweet potatoes. At night, mush and beans are eaten, but no midday meal is prepared. The evening meal is usually left simmering in the pot over a slow fire all day. Greens and tomatoes may be eaten as a relish.

Pounding maize on a rock is one of the principal tasks for women, who use a pestle and mortar or a rubbing stone more rarely. The pounder employed is a V-shaped pestle which is swung rhythmically with the right hand and brought down on a pile of maize between the legs of the seated worker. Before a rock can be used for pounding grain, a medicine-man kills a chicken and sprinkles the blood over the surface of the rock. This ritual is essential, and no rock is used before the ceremony has been performed. A pounding rock is a social center where the women sing as they work, pausing at times to indulge in village gossip.

Tobacco.—In connection with agriculture, the cultivation of tobacco is important from an economic and social point of view; but the economic significance has declined with the restriction of caravan trade in which coils of tobacco were a medium of exchange and a standard for measuring values. Following a usual Negro custom, the Ovimbundu raise tobacco plants from seed, which is planted in screened patches of ground near the huts. Small plants are pricked out into a large mound of earth, which may be an ant hill in the middle of a field of maize. From many of the plants the flower-buds are picked, so that relatively few of the plants come to seed. Further to stimulate development the lower leaves are removed. The Ovimbundu remove the midrib from each leaf before suspending the bunches of leaves from the inner side of their roofs. At the end of five days, when the leaves are brown, they are twisted into a long rope which is hung in the sun for three days. Three methods of packing tobacco leaves are followed: there are



a



b

FIG. 88. Granaries, Angola. a. Near Ngalangi, a clay and wattle structure. b. Vakwanyama, a basket under a thatch.

round and oval coils, and spirals of tobacco twisted round sticks. Snuff is made by baking the leaves and pounding them to a fine powder, which is sometimes mixed with wood ashes.

Snuff boxes and tobacco pipes are among the best examples of the wood-carver's art (M. Shaw, 1935, pp. 141-162). A mixture of tobacco and hemp is sometimes smoked in a water pipe made from a small gourd, or from the horn of an ox or an antelope. The wide end of the horn is plugged with clay, and a hole which will be used as the mouthpiece is bored at the tip. A clay bowl for the tobacco is inserted in the side of the horn. When the smoker applies his lips to the tip of the horn, he draws smoke through the water into his mouth.

Local customs of Negroes differ with regard to the prevalence of smoking tobacco, hemp, or a mixture of the two. Habits of snuffing and chewing vary regionally, as do also the habits of males and females with regard to narcotic drugs. A common Negro custom is the use of a communal tobacco pipe which is passed from hand to hand in the men's house after an evening meal. A summary of the history of tobacco in Africa, the nature and distribution of customs associated with its use, and the types of smoking apparatus employed, is given by Laufer, Hambly, and Linton (Field Museum Leaflet No. 29, 1930).

Beer.—Making beer from such grains as maize, millet, durra, or Kafir corn, according to locality, is an occupation of great social and economic importance. Beer is consumed on all ceremonial occasions, and supplies of the beverage are essential for a successful dance. During rites connected with ancestor worship, beer is poured out as a libation, or it is used in lustration ceremonies. For example, a hunter of the Ovimbundu pours beer over the bows of the ancestors before going to hunt. Information given with regard to ceremonial uses of beer among the Balobedu, by E. J. Krige (1932, pp. 343-357) is widely applicable in principle to Negro tribes.

The Ovimbundu make several kinds of beer by methods which are illustrative of general procedure among Negroes. For each kind of beer the Ovimbundu use their staple grain, maize, which is moistened and buried in the ground until it begins to germinate. The sprouting grain is pounded and placed in large pots containing sweet meal of corn. The mixture simmers over a slow fire for two days, and is stirred constantly. A little honey is added, and after the simmering process is finished the beverage is allowed to mature for a few days. This is the beer with greatest alcoholic content;

other less intoxicating kinds are made by reducing or omitting the honey, or permitting only a short time for incomplete germination of the maize. With regard to the most potent beer, my informant said, "A man who has drunk much of this beer will sleep on the ground all day and say nothing."

Salt.—The desire for salt in cooking and as food for animals has been of social and economic importance. Negro tribes who keep cattle drive them periodically to saline marshes or to places where there is an outcrop of salt. Before salt could be obtained from traders, who imported it from Europe, sea water was evaporated and traded from the coast inland to be exchanged for tobacco, beeswax, and other indigenous products. In eastern Angola, the Vachokwe follow a common Negro method of making salt from plants. Leaves of a river plant are burnt to ashes, which are soaked in water and strained.

With the advance of European contacts, the commercial value of salt has declined, for most Negroes are acquainted with European money. But only thirty years ago E. Torday paid his carriers in salt during journeys in the southwest Congo region. At that time compensation for murder (blood-money) was paid in salt. The chief of a village, which as a social unit was responsible for a murder committed by one of the inhabitants, paid compensation to relatives of the murdered man. For this purpose, the chief assembled his subjects and collected a handful of salt from each of them.

The importance of salt mines in the Sahara and the stimulus that these gave to trade with Negroes of west Africa, has been described (section I). The trade exists despite European competition, and M. Abadie (1927, pp. 274-280) has pointed out the effects of present-day traffic in stimulating the markets of the western Sudan. The preparation of and trade in salt on the shores of Lake Mweru has been described by R. J. Moore (1937).

But before the Negroes of west Africa depended on extraneous supplies of salt they could make the commodity, especially if living near the coast. J. Matthews (1788, p. 37) speaks of a coastal plain of saline marshes inundated by the sea at intervals. The natives collected the crust of mud left after subsidence of the water, and liquid from the mud was decanted into pans which were placed over a fire until only crystals of salt remained. This salt of Sierra Leone, though impure, was preferred to the white salt sold by Europeans.

Making Fire.—Another factor linked with food production and cooking is the making of fire by friction, a method which still persists

not only ceremonially but for ordinary household purposes. Matches are obtainable in many places and flint and steel are widely used for making a spark, yet many tribes still rely on frictional methods. The frictional method of widest distribution is that of twirling a stick of hard wood on a baseboard of softer wood. A quantity of fine dry tinder is placed at the point of friction, and when smoke appears the tinder is puffed into a blaze. In everyday life, the necessity for making fire seldom occurs, since the household fire is not allowed to become extinguished. Logs are pushed forward into the blaze, and dying embers are revived in the morning by adding small pieces of dry bark and blowing the embers. The method of sawing a piece of wood with a strip of rattan is employed on the lower east coast of Africa and in the island of Madagascar; this procedure is probably due to culture contacts with Indonesia. The "Atlas Africanus" gives maps showing the geographical distribution of methods of making fire by friction (Frobenius, 1922).

The Calendar.—Among many Negro tribes agricultural operations are the basis of calendrical divisions; these are determined by the alternation of wet and dry seasons, which control operations in the fields. The Umbundu word *oku lima*, to cultivate, gives the word *ulima* for the period between the beginnings of two wet seasons. The main time-mark is the arrival of the first rains in mid-September. The Ovimbundu have no measure for minutes and hours, but in common with many Negro tribes the unit of a day is from sunrise to sunset, and questions about distance are answered by pointing to a place in the sky where the sun will be when the traveler reaches his destination. Days are counted as so many suns, and records of days are kept by making notches on a stick, especially during a journey. In Umbundu, a period of three days would be expressed by *akumbi atatu* (three suns). There is no Umbundu word for week, but a month is *osai* (moon).

The Bakongo calendar is dependent on seasonal divisions, of which there are eight; these are distinguished by depths of rainfall. The European week of seven days is displacing the Congo week of four days, whose names were those of the principal markets (J. H. Weeks, 1914, p. 308).

C. K. Meek (1931a, pp. 453-455) states that the Jukun have a time unit of five and one-half days, which is the time required to make a brew of beer. In terms of this unit a person expresses length of residence or time taken on a journey. For the Jukun the agricultural year is the most important time unit, and the fourteen

subdivisions are known by such names as first rains, first weeding, thinning out, second weeding, and binding. The month of the Jukun depends on lunar phases, yet no regular system has been adopted for naming the months, except that the month in which the harmattan is strongest is the "month of the wind." The lunar months are not adjusted to the solar year.

Consideration of agriculture has so far been limited to a description of typical farming operations and the social factors involved, among which division of labor between the sexes is important. Linked with agricultural operations are several adherent traits of importance. These include culinary operations, manufacture of and trade in salt, making fire, reckoning time, the cultivation of tobacco, and the manufacture of beer. Geophagy is more of a rite than a nutritional custom.

Geophagy.—The research of B. Laufer (Field Mus. Nat. Hist., Vol. 18, No. 2, Chicago, 1930), shows a wide distribution of the practice of eating earth. Geophagy is a custom often associated with pregnancy. A. J. N. Tremearne (1913, p. 142) states that Hausa women eat a white earth during the first three months of pregnancy, and he makes further references to earth-eating in "The Ban of the Bori." Tremearne states that women who eat earth do not do so during a famine; therefore, for the Hausa of whom he speaks, the eating of earth appears to be entirely ceremonial. R. F. Burton (1860, vol. 2, p. 28) thought that the Wanyamwezi of east Africa found enjoyment and nutritional value in the earth of termite hills. The earth contains a sticky, sweet substance exuded by the termites when making their tunnels. Mungo Park (1799, p. 327) says, "This practice is by no means uncommon among Negroes, but whether it arises from a vitiated appetite or from a settled intention to enjoy themselves, I cannot affirm."

Ritual.—Important as these factors may be, socially and economically, they are subordinate to a ritual element without which no agricultural operations could be successful. The relation of food supply to ancestor worship, and the dependence of secular occupations on spiritual sanction, have been proved by typical examples from Bantu and Sudanic Negro tribes. The instances chosen laid emphasis on the economic importance of religious rites associated with tillage, sowing, and harvesting. The concept of land as a possession of gods and ancestors, and the function of a chief as a distributor of land, have likewise been emphasized in connection with religion and the laws of land tenure (section II, chap. VI).

DOMESTIC ANIMALS

The main facts relating to animal life in Africa have been summarized in section I, chap. I, "Physiography and Nature Notes." In section II, "The Culture Area Concept," the main features of the camel cultures and the cattle cultures were described.

No general statement can be made respecting the degree of ritual connected with pastoral culture among Negro tribes, but sometimes cattle are of ritual importance as well as of economic value. For example, among the Vakwanyama of south Angola, cattle (Fig. 67, *a*) are of economic as well as ceremonial importance. Oxen are killed at a funeral feast, and their horns are mounted over the grave;



FIG. 89. Long-horned ox, Kukawa, Lake Chad.

chiefs are buried in shrouds of oxhide. Meat is not an ordinary article of diet, but cows are milked, and butter is made by swinging milk in large calabashes suspended from poles. A particularly fine example of the long-horned ox is seen in Fig. 89.

The Bavenda preserve ritual methods for slaughtering cattle, and the attitude of this tribe indicates that the animals are of great social and ritual importance. H. A. Stayt (1931a, p. 40) reports that the slaughterer holds an official position, which is hereditary in the larger villages, and if the meat is unsavory the office is transferred to another person. During the killing, only the official butcher is present, since the flesh of the beast might be contaminated if

other persons were near. The animal is killed by a spear which is thrust behind the shoulder, and it is essential that the spear should have been rubbed with a mixture of dried blood of steenbok and powdered root of a tree. Some of this preparation is forced into the animal's mouth. When the spear has struck, the slaughterer holds his own mouth and nostrils tightly so that, by sympathetic processes, the animal will soon succumb. For further information on the ritual associated with cattle, see section II, chapter III, "Pastoral Pursuits."

Many Negro tribes who are not Mohammedanized keep pigs. These are often of a lean, long-snouted breed known in animal husbandry as Keltic; but traces of European breeds are noticeable in many regions. Goats are almost ubiquitous, and the same may be said of lean poultry. Sheep of the fat-tailed Syrian breed are common. None of these animals is of ritual importance, except that chickens and goats are the animals usually chosen for sacrifice during acts of ancestor worship. Fig. 13 shows (a) the fat-tailed sheep of Asiatic origin, reared extensively in Cape Colony, and good for surviving on scanty pasture during drought; (b) the long-eared Syrian goat; (c) a fat-rumped sheep of Asia, Arabia, and northeast Africa, also a good survivor in drought. Lean dogs of a greyhound type are widely distributed and in many tribes are used during hunting. Weeks (1913, p. 233) mentions the use of dogs as food in the Central Congo region. This custom may be fairly common, but the evidence has not been collated.

Arguments relating to the distribution of species and their probable origins are too detailed and controversial to recapitulate here. Two main breeds of cattle are the long-horned Damara breed and the humped zebu cattle. Short-legged goats with heavy bodies are common in west Africa, and long-legged goats have a wide distribution. Problems relating to domestic animals, their history, and economic uses have been fully discussed by H. Kroll (1928-29, pp. 177-290). L. S. B. Leakey (1934c, pp. 70-79) calls attention to certain social and economic problems associated with herding of goats and sheep among the Akikuyu. For additional information on oxen, consult section I, "Animal Life," and section II, chapter III, "Pastoral Pursuits."

Kroll's survey of the economic use of domestic animals leaves the general impression that in concentrating on agriculture Negroes fail to use and develop sources of animal foods. Many tribes have an aversion to milk; therefore, cattle and goats are not milked, and

butter and cheese are unknown. Goats pick their own food supply, and since they are almost omnivorous in their selection of vegetable foods, there is no cost of maintenance. But hundreds of Negro tribes who rear goats have no system of husbandry; they make no use of the milk; and have no system of slaughter and preservation of the flesh by drying and smoking. Activity of this kind is, generally speaking, unknown, but such an industry would often relieve the distress resulting from a bad harvest.

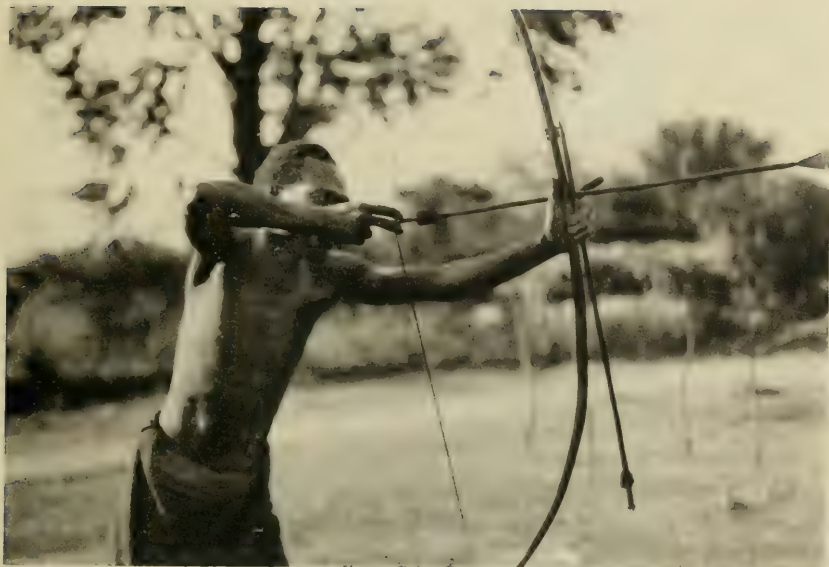
All Negroes are fond of meat and will gorge themselves if a large antelope is killed, but their social and economic habits are fixed, and it is exceptional to find tribes who regard the flesh of goats, pigs, and chickens as part of a normal diet. Chickens are housed at night and hens often sit on their clutches within the dwellings of their owners, but no organized attempt at poultry farming is made, though eggs are appreciated in many regions.

The use or neglect of valuable foods is, however, an inquiry leading to the broad question of the psychology of social customs and economic habits, with their associated prejudices and taboos. A study of Kroll's data respecting the use or avoidance of milk and meats by Bantu Negroes shows how arbitrarily the factors of acceptance or rejection appear to operate. With the advance of technical education in colleges where Africans are trained as demonstrators and teachers, and with progress in research undertaken by government departments, a breaking down of prejudices may result in a fuller recognition of the value of animal foods and a willingness to devote time to animal husbandry.

HUNTING

Facts relating to this activity among Negroes bring out clearly their idea of the dependence of success on religious belief and ritual. Hunting devices and technique, which have been described by K. G. Lindblom (1925, 1926), and E. Keller (1936), are of great variety and ingenuity, but their effectiveness is thought by many tribes to be dependent on social and religious observances. (See section II, chap. II, "Hunting Cultures.")

Social and religious practices of the Ovimbundu illustrate some points of importance in connection with hunting. A communal hunt is one in which all men of a village may take part, and women and children are employed in firing the dry grass and driving the game to places where hunters are concealed. In this type of hunting no ritual is observed. In each village, however, there are one or more professional hunters (*ukongo*) who depend for success on



a



b

FIG. 90. Negro hunters. a. Ocimbundu near Elende, Angola. b. Munshi near Katsina Ala, Nigeria.

specialized training and the observance of ritual throughout their lives. These persons are given special funeral rites and stone tombs of peculiar construction.

A boy who wishes to become a professional hunter has to serve for two years with a man known as *ukongo* (Fig. 90, *a*) before he himself can receive this title. At the end of his training, a feast is given in the village, and, though all persons may attend, only professional hunters may dance. The novice who is to be initiated may not move or speak until he feels "spirit on his head," then, when the impulse of spirit possession urges him, he distributes the meat that hunters have provided for the feast. The blood from these animals is used to smear on the bow, arrows, and spear that the master presents to his pupil.

The night before a professional hunter sets out for the chase is a time of ritual dances and observances for renewing the effectiveness of his weapons. The hunter enters the house of bows where he preserves the weapons of dead ancestors, and there he rubs the bows with oil and pours libations of beer over them. This is a form of ancestor worship and a recognition of the power of the dead to influence the welfare of the living. The food and cooking pots of a hunter must never be associated with the victuals and utensils of ordinary household use. If a hunter is following the tracks of an animal, he should not point with his finger or with the iron tip of an arrow, though the feathered butt may be used. Failure to observe this custom results in driving away the game. A hunter may not sleep with his wife the night before the chase. Early in the morning and before leaving for the chase, a hunter bathes his eyes in a concoction of herbs to improve his vision.

Trophies of the hunt are placed on high poles before a hunter's hut (Fig. 91, *a*), and after the funeral of a hunter trophies of this kind are sometimes laid on the top of his rock tomb (Fig. 91, *b*). The special observances of the Ovimbundu could be paralleled from many tribes. C. Seyffert (1911, pp. 91-113) has described in detail the magic and ritual connected with hunting of elephants in the Cameroons, and I. Schapera (1932, No. 327) emphasizes the importance of ritual in connection with hunting lions in the Kalahari. An article by A. Even (1936) gives further data on ritual and elephant hunting.

Some Negro tribes, for example, the Ashanti (Rattray, 1927a, p. 183), lay special emphasis on the need for placating the soul of an animal killed in the chase. When classifying the souls of animals according to their danger to a hunter, the Ashanti disregard the



a



b

FIG. 91. a. Hunter's trophies, Ovimbundu. b. Hunter's tomb, Ovimbundu, Luimbale.

degree of natural ferocity. The buffalo or bush cow is a dangerous animal, but its *sasa* or soul is said to be harmless. On the contrary, an antelope, which is small and timid, is classed with animals having dangerous souls, and an antelope called the bongo has the most vindictive *sasa* of all creatures. A hunter must not mention the name of this antelope, and he has to speak of the animal in a whisper.

Dancing is essential after killing an elephant, and neglect of the rite would mean that the hunter who killed the animal would never again be successful in hunting elephants. The *sasa* of the elephant would cause the hunter to become fat, and he would eat all day, yet without any satisfaction, until at last he would die.

In many Negro tribes, some form of ritual observance, having as its object the efficiency of hunting dogs, is practiced. The Ovimbundu clip the ears of dogs to make them hear well. The Bangala give their dogs potions to make them courageous (J. H. Weeks, 1913, p. 233). At intervals, the medicine-men of the Bavenda rub medicines on the eyes and noses of dogs in order to quicken the senses. A dog which has the habit of seizing a buck, then releasing him, has his teeth well rubbed with medicine to make him more tenacious (Stayt, 1931a, p. 45).

Often in purely Negro tribes hunters are of good social standing, but this is not generally so in certain Hamiticized tribes of north-east Africa. An article concerning the social and economic relationship of some pastoral Hamites and adjacent hunters assesses the relative social standing of the two. The general tendency is for hunters to be regarded as inferior in status to the pastoral tribes with which they trade (G. W. B. Huntingford, 1929, pp. 333-375; 1931, No. 262).

In addition to Lindblom's account of hunting appliances, including many types of traps and weapons together with maps showing their geographical distribution, students of the technique of hunting have a valuable source of information in L. S. B. Leakey's (1926, pp. 259-294) description of the structure of African bows and arrows, including wooden arrows for killing birds. Fig. 90, *b* shows the disguise assumed by a Munshi hunter of Nigeria, who conceals himself in long grass.

Crossbows were introduced into west Africa by the Portuguese about the sixteenth century. These weapons, which are used for hunting rather than warfare, have a distribution limited to the west of the continent, chiefly Nigeria, the Cameroons, and French Equatorial Africa. The Fang living north of the Congo estuary,



FIG. 92. Wandorobo, hunters of Kenya. Houses are like those of Ituri Pygmies.

also other tribes, use a crossbow to shoot light, poisoned darts at birds and fish (H. Balfour, 1909, pp. 337-356; P. G. H. Powell-Cotton, 1929, No. 1).

To the instances of ceremonial preparation of arrow poison, which was previously mentioned in connection with warfare, should be added the data given by R. S. Rattray for the Ashanti hinterland (1932a, vol. 1, p. 175; vol. 2, p. 412). Among the Dagba, men who are making poisoned arrows have to be sexually continent, and during preparation of the poison they are not allowed food or drink. The prepared arrows are carried to the village from their secret place of manufacture by a young virgin. It is believed that without this ritual the poison is ineffective. H. Labouret (1931, p. 101) has given a particularly instructive account of the preparation of arrow poison from *strophanthus*, which is commonly used for this purpose by west African Negroes and by many other tribes in widely separated parts of the continent.

FISHING

This occupation is widely distributed among Negroes living near lakes, rivers, and the sea. Study of the technique of fishing covers a wide field of research into the use of nets, weirs, baskets, spears, bows and arrows, canoes, and poisons. Several comprehensive articles have dealt with these technological aspects. The photographs and descriptions of fishing operations in the Kavirondo Gulf, as recorded by C. M. Dobbs (1927, pp. 97-100), give information which has a wide application, though each locality has its own peculiar development of technique, and of ritual also. F. Claus (1930, pp. 1095-1114) has described the use of toxic plants for preparing poisons that stupefy the fish. K. G. Lindblom (1933) has contributed a detailed study of the use and geographical distribution of two types of fishing basket.

Apart from the question of technical appliances and methods of work, the main considerations are (1) seasonal variations in method; (2) allocation of method according to sex; (3) observance of ritual and taboo to secure success in fishing. Examination of the practices of the Ovimbundu will exemplify the operation of these principles.

The chief methods of this tribe are fishing with a rod and line, the use of weirs (Fig. 94, *b*), dragging baskets against the stream, fixing small nets to sticks in shallow water, and scattering poison on the surface. Near the coast, large circular nets are used for casting, and fishing spears with sharp bamboo prongs are employed.

Fishing with a baited line is a method confined to males. Women use drag-baskets and employ narcotic poisons. When canoes are used, they are paddled by men. If a current flows swiftly, men assist women in dragging large baskets against the stream. These are the chief divisions of labor according to sex.

Two points of ritual are observed. The night before fishing, men must abstain from sexual intercourse. And when fishing with a line, success depends on the chanting of a spell to encourage the fish to bite.

The fishing line of the Ovimbundu consists of a tough strip of bark that varies in length with the height of the river bank on which the fisherman sits. A hole is bored through the body of a grasshopper, a worm, or a pupa taken from under the bark of a tree. Through this hole in the bait is passed a short, stiff piece of grass to which the line is attached. The fish is caught when it swallows the bait and the stiff piece of grass becomes transfixed. When a fisherman throws his line he sings:

O fish, come and taste your good thing.

Do not send a little fish to spoil the good thing.

Better you come and take the good thing with all your strength.

To make fish-poison, the tuberous roots of a plant are soaked in water until scum rises to the top. The solid part of the narcotic is not given because it would sink, and the fish that ate it would remain at the bottom of the river. No fishing can be successful unless the fish rise, and the taboo against sexual intercourse the night before fishing must be observed to prevent the fish, males and females, from remaining together on the river bed. Poisonous scum causes fish to gasp at the surface, where they are seized by women and transferred to gourds which the women wear round their necks. Poison is used only in dry weather when water is shallow and pools have been formed in the beds of rivers.

When a weir (*olunja*) is employed, the device consists of a wicker fence with a gap in the middle, and on the lower side of this aperture a basket is placed. The Ovimbundu do not fish by torchlight, though this is a well-known method among Negro tribes. The poisoning method and all the other techniques mentioned are widely used. Harpoons with detachable, barbed, iron heads are unknown among the Ovimbundu, but they are of local occurrence elsewhere, notably among the Buduma of Lake Chad and the Munshi of Katsina Ala in southeast Nigeria. H. A. Stayt (1931a, pp. 80, 237) gives an account of the Bavenda method of shooting fish with bows

and arrows. He notes that fishing is a favorite pastime of young boys, but the occupation is disliked by adult males and is entirely taboo for women. The dependence of occupation on religious belief is aptly illustrated by Stayt's account of Lake Fundudzi, which is inhabited by ancestral spirits. "Although the lake swarms with fish no one has succeeded in landing a fish caught there. Water, if carried away from the lake in an open receptacle, simply vanishes away. Water sealed up for a day or two will burst the vessel that holds it, leaving a curious characteristic odour behind it."

A common form of canoe in the forest regions of west and central Africa is the heavy dugout, which is often made from a bombax tree, whose massive trunk can provide a canoe thirty feet in length, though the actual length is sometimes as little as eight feet. The dugout is employed outside forest areas, but the size diminishes away from big timber (A. T. and G. M. Culwick 1935c, pp. 265-273).

Fig. 93, *b* shows a type of bark canoe used by the Vachokwe of eastern Angola during fishing operations. A fisherman uses this kind of vessel for short journeys into mid-stream, where he sets his nets. The Buduma of Lake Chad have a type of canoe made by lashing together bundles of reeds to make a canoe with a prow (Fig. 95). Such a vessel is employed for fishing and for the transport of natron and animals. With a few weeks of constant use, these reed canoes become waterlogged.

Contacts with Asia have resulted in the appearance of outrigger canoes near the coasts of Madagascar and east Africa. J. Hornell (1919, No. 55) points out that a structural relationship exists between this kind of canoe and certain designs of outrigger canoes from Java. This Asiatic influence has possibly affected the construction of canoes on the shores of Lake Victoria Nyanza, where the Baganda build large vessels consisting of dugout hulls having their sides built up with planks. The details of construction have been described and sketched by P. Kollmann (1899, pp. 22-26). Other contributors to the subject of Indonesian influences are A. C. Haddon (1918, No. 29; 1920, pp. 69-134), A. T. and G. M. Culwick (1935c), and R. B. Dixon (1928).

NATURE LORE AND COLLECTING

Purely hunting tribes, such as the Bushmen of the Kalahari Desert and the Pygmies of the Ituri Forest, show a high degree of specialization in nature knowledge and in the collecting of wild produce, both vegetable and animal. This work is a staple task of women and children.



a



b

FIG. 93. Food-collecting and fishing. *a*. Beehive, eastern Angola. *b*. Fisherman in bark canoe, Vachokwe, Cangamba.

In many Negro tribes also these tasks are relegated to women and children, and supplies of food gathered in this way are highly valued, despite an abundance and variety of agricultural produce. In the large markets of Ibadan in Nigeria, the Yoruba, though provided with yams and other cultivated products, carry on a brisk trade in tortoises, large land snails, and rats on skewers.

Among the Ovimbundu, in addition to medicine-men who have detailed knowledge of curative plants, all men and boys have a large vocabulary relating to trees, birds, reptiles, and many varieties of edible rats and mice. Every man knows what timbers are best suited for building houses that will resist the attacks of termites, and all are acquainted with the best woods for making bows. Timbers for drums, for domestic utensils, and for charcoal are readily recognized.

Names of fifty distinct species of birds were obtained from the Ovimbundu, who imitate bird calls and interpret their meaning. Nature lore of this kind not only serves a practical purpose in connection with food supply and handicrafts, but it enriches the vocabulary and is the basis for folklore stories of animals and their habits.

One bird makes a cry which is a warning that guests will visit the village, for the bird calls, "Where will the guests stay? Where? Where? Where?" The calls and answers between male and female birds are interpreted as conversation of a human kind. The female hornbill says, "I'm going, I'm going, I'm going to our village." To this, the male replies, "Don't go, don't go; the rain has come; let us plant." In distinguishing small mammals, lizards, and snakes, men of the Ovimbundu are adept, but at times a difference of opinion arises when two closely related varieties are discussed.

In common with many Negro tribes, the nature lore of the Ovimbundu includes knowledge of the weather, which to some extent is thought to be under the control of *ocimbanda opulia*, the medicine-man of the rain. No man thinks that the course of the sun can be changed, but a magical rite can retard the setting. A traveler who is almost benighted breaks a piece of earth from a termite hill, then with the words, "O sun, wait for me a little while," he places the earth in the forked branch of a tree. An eclipse of the sun is *uteke vutana*, meaning night in daylight. Some of the stars are named; these serve to give direction during journeys, and the phases of the moon mark intervals of time.

Although the Ovimbundu have advanced far beyond the stage of dependence on hunting and collecting, both occupations are



a



b

FIG. 94. *a*. Ukwanyama man preparing hides by treading. *b*. Fishing by a weir at Maiduguri, Nigeria.

followed with zest, and this is true of most Negro tribes. Ovimbundu boys shoot small birds with blunt wooden arrows or snare them with mucilage. Children catch rats and mice in cane traps of conical form; these are set in dry grass which is ignited. Boys search diligently for nests, which are robbed of their eggs or fledglings. Women and children collect caterpillars, which are squeezed into boiling water to make soup. Locusts are sometimes eaten fresh after roasting them on hot ashes, or they may be preserved in fat or salt. Wild, edible fruits are collected by women and children.

Apiculture consists of placing hives in forest trees; this method of the Ovimbundu is common in many parts of east Africa as well



FIG. 95. Canoe of papyrus reeds, Buduma, Lake Chad.

as in the southwest. The hives so employed are generally made of cylinders of bark (Fig. 93, *a*). The Ovimbundu of Elende remove honey from these hives in August and December. One man ascends a tree to lower the hive with a rope of bark or plaited fiber, while beneath the tree stand men and boys who receive the hive and open it over a smoky fire. The workers have no protection; consequently, they are at times badly stung. Boys who run away in fear are denied a share of the honey.

Honey is eaten alone or with manioc, and portions of the comb are added to maize when making beer. Wax from the combs is rolled into balls which form a unit of trade. Wax is now collected at stores of traders who export the commodity to the coast.

Some hill tribes of Nigeria construct hives in the mud walls of their houses by inserting pots with their covered mouths directed outward; a small hole is left in this cover for the entrance and exit of the bees. To collect honey, the bees are driven out by heating the pot, which is then emptied and resealed. Men who empty the hives give themselves protection against stings by smearing their bodies with a vegetable juice. A. T. Culwick (1936, No. 95) has contributed to the subject of honey-gathering, and a complete survey of apiculture among Negroes has been published by C. Seyffert (1930).

The manner in which collecting of wild produce can develop into a well-organized industry is exemplified by an instance given by A. W. Cardinall (1927a, p. 78). During a period of three years, some of the chiefs of the Northern Territories of the Gold Coast prohibited the gathering of snails because of rapid depletion of the stock. But in normal years the collecting season begins with the rains and lasts for six weeks. During the collecting period, men, women, and children migrate to the forests, where they work all day collecting large snails. Women break the shells with wooden platters, dry the meat and smoke it, then place it on large skewers. This meat is sold to neighboring tribes, but visitors from these tribes are permitted to collect snails for themselves, provided they pay a tax of one skewer of snails in every ten gathered.

COMMERCE

Study of commerce in Negro tribes should include an examination of small trade, organization of caravans, establishment of large markets, the use of currencies, systems of counting, and units of measurement. Contacts with Europeans during four centuries have given an incalculable stimulus to African trade. New commodities have been introduced, and though some indigenous handicrafts have been discouraged, for example, weaving, other activities have been stimulated. European contacts have given an impetus to artistic work in leather and brass, for instance, in Nigeria, and especially when these subjects are taught in industrial schools.

With the exception of large markets at coast towns of Benguela, Loanda, and Lobito, Portuguese West Africa is a colony of small trade, for the famous caravan trade has fallen into desuetude. One may travel thousands of miles in the interior of Angola without seeing a large market; all trade, apart from the sale of European commodities in stores, is carried on by petty barter in villages. Here the blacksmith makes hoe blades, ax-heads, and arrow-points which he barter, or sells, using the Portuguese *angolare* (about five cents)

as a unit of value. Most of the trade is measured in this paper unit and larger denominations are regarded with suspicion; they are not well understood by the natives.

As an extreme contrast from this condition of small trade, the permanent markets of Nigeria may be mentioned. The largest of these are at Ibadan, Ilorin, Kano, Sokoto, and Maiduguri, where great emporia of trade were anciently established. Introduction of European trade has increased the size of the markets, but they were organized on a large scale before European influence was felt. From miles around, artisans bring their wares, including pottery, mats, baskets, brasswork, leather goods and foods. Some industries are permanently established in markets; for example, the market of Kano has sections for leather, silverwork, gourds, and weaving of baskets. Markets of northern Nigeria, and especially the market at Kano, still show an enormous caravan trade; trains of camels, donkeys, and oxen arrive daily from all directions, and for centuries Kano has been the great emporium for the western Sudan, eastern Sudan, and the trans-Saharan trade. In east Africa, the town of Omdurman has a corresponding commercial standing.

The caravan trade and the development of markets were, during several centuries, stimulated by American and European demands for slaves, ivory, and gold dust. European goods, such as cloth, muzzle-loading guns, powder, brass rods, gin and rum, were supplied to caravans, or the commodities were traded at the coast, to which caravans from the far interior brought their slaves and ivory. The Bihéan section of the Ovimbundu organized caravans that crossed Africa to Lake Tanganyika, where they came in touch with Arab traders from the east coast, and the Arabs themselves, after raiding villages of the Congo region, formed caravans of slaves who carried ivory to Zanzibar.

In connection with the Bihéan caravan trade certain ritual was practiced. The skull of a chief was consulted and asked for a blessing, while sacrifice was made and a new piece of oxhide wrapping was given to the skull. Each caravan was accompanied by one or more medicine-men, who gave advice concerning the route and the welfare of the enterprise. For this purpose they consulted a small female figurine of wood having a feather head-dress. By ventriloquism this figure *ngeve*, which is still obtainable in Angola, was made to give audible replies. Horns of antelope were filled with "medicine," including fat and charcoal, and these charms were stuck in the ground near camps to keep away thieves and wild animals.

There is evidence to indicate that the founding of a successful market does not depend entirely on secular considerations, such as choice of a site which is easily accessible by river. H. Labouret (1931, p. 353) points out that a diviner is consulted so that a propitious situation may be chosen. M. J. and F. S. Herskovits (1933, p. 70) refer to a guardian divinity of the market to whom twins must be shown before they are members of their group. "Buried under its mound, this market Aiza, which is made of the earth of seven prosperous markets, has ingredients dug out of the earth that are called the 'eyes' and 'heart' of the earth, as well as samplings of all that is sold in the markets: grains, fruits, cloth, animals, slaves." A complete survey of trade among Negroes would prove that commerce, like agriculture, hunting, and fishing, has a spiritual as well as a secular aspect; therefore, success is dependent on the cooperation of some power or patron who is more effective than the intelligence of man.

The chief mechanisms of trade are currencies, methods of counting, and the use of standards for measuring length, weight, and capacity. In time past, one of the most general currencies has been cowrie shells, which have been traded from the Indian Ocean all over the continent south of 10° N. Lat. S. Johnson (1921, p. 118) states that as late as the year 1897 coins were a curiosity if seen far from the coast of Nigeria, and the general table of reckoning counted forty cowries one string, fifty strings one head, and ten heads one bag. Then later, when money and cowries circulated together, two thousand cowries were valued at sixpence.

Emin Pasha found that in Uganda in the year 1888 one hundred cowries on a string was a unit of currency, and that five strings were valued at three shillings and sixpence. An ox was valued at fifty strings of cowries; that is, five thousand shells. On the east coast, a Maria Theresa dollar was valued at five strings of cowries, and every animal or commodity had a value expressed in cowries.

J. A. Skertchly (1874, p. 227) states that, during his visit to Dahomey (1870), Gèlele, the king, threw bunches of cowries to his nobles, causing them to indulge in a wild scramble. This was followed by a similar competition for ambassadors and strangers. Cowries were placed on the heads of victims who were about to be sacrificed to provide service for dead kings. The cowries were intended for use of the victims in a spirit world. Despite an increasing use of European coins and paper money, cowries are still extensively employed in parts of west Africa, and large payments are

made through this medium, for example, in the city of Djenne (Monteil, 1932, pp. 267-273) and in Ashanti hinterland (Rattray, 1932a, vol. 2, pp. 414, 416). For large transactions, cowrie shells are not counted but measured in a vessel of known capacity.

In addition to cowrie shells, many kinds of currency, some of them extremely cumbersome, have been used. The principal of these were spearheads, hoe blades, brass rods (A. C. Haddon, 1908, No. 65), X-shaped ingots of copper, ivory measured by the hand's span, tobacco, salt, rubber, wax, gin, rum, and manillas. The last-named are still procurable in southern Nigeria. The form of the token is that of an open oval bracelet, made of bronze and thickened at each end. R. P. Wild (1936, No. 99) has written an article on "Iron Disc Currency from Ashanti."

In Ashanti, gold dust was a form of currency which was measured by little weights of cast brass; these were made by the lost-wax process to be described in connection with handicrafts. If the weight was not heavy enough, a small amount of metal was added by filling cavities, and if the weight was too heavy it could be reduced by filing. A king was allowed to obtain revenue by using a special set of weights rather heavier than those employed in ordinary trade; therefore, he received an advantage when gold dust was weighed out to him. Each weight represents a proverb, and definite mass relationships exist between some of the weights. The subject has been dealt with in scientific books and articles (Rattray, 1923, pp. 300-313; 1927a, p. 311; N. W. Thomas, 1920b, pp. 52-68; R. Zeller, 1912, pp. 1-77).

Two widely distributed methods of keeping tallies of numbers are the notching of sticks and the tying of knots in cords. The Ekoi and other tribes of southeast Nigeria keep numerical records by dropping small stones or grains of corn into a calabash. Records of payments are sometimes made by chalking vertical strokes on walls. The Ekoi system of reckoning consists of counting, first on the fingers, then on the toes, but if the number exceeds twenty the accountant lays on the ground a stick for each group of five. P. A. Talbot (1912, p. 304) mentions the use of finger signs for numbers; such methods of counting are common among Negroes. The Ovimbundu count quickly up to ten by hand signs, and J. H. Weeks (1909, p. 419) has made a study of the Bangala system of digital counting, which he has illustrated in detail to show the positions of the fingers.

Hausa traders of west Africa make use of parts of their bodies as standards of measurement (C. K. Meek, 1925, vol. 2, p. 153).

Thus a span from the forefinger to the thumb is *teki*, the length of the foot is *taiki*, from the elbow to the knuckles is *dungu*, and the distance between the tips of the middle fingers when the arms are stretched in line with the shoulders is *gaba*. Counting is done on fingers and toes, and *ya gurum*, "the whole man," means all the fingers and toes. The number two hundred is *ya gurum tar*, meaning "the whole man ten times over."

A system of measures used by the Ovimbundu is illustrative of the general nature of such measurements among trading Negroes. The Ovimbundu have measures of length, area, and capacity, but no measure of weight which is not of Portuguese origin. The unit of length, *epaluma*, is the distance from the tip of the thumb to the tip of the middle finger when the hand is outstretched. This is used to measure tobacco before it has been coiled. Cloth is measured by stretching the arms to their full extent in line with the shoulders; the distance between the tips of the middle fingers is *epeka*. The stride for measuring land is *elianga*. *Ondjimba* is an area of land about twenty-five feet square. *Etemo*, meaning a hoe, is an area of land two hundred yards long and thirty feet broad.

Measures of capacity are provided by various baskets. A large conical basket called *ohumba* has an interwoven mark which indicates a measure for maize, meal, and beans. *Ocitenge* is a coarsely made basket used as a unit of capacity. Palm oil is measured in a gourd of definite size. The forked stick of a porter is made to hold a load of about sixty pounds, which is carried for a distance of twenty miles each day. A load for a woman is about twenty pounds lighter. An extensive study of African weights and measures has been published by D. Kürchoff (1908, pp. 289-342).

Trade has resulted in the exchange of tangible commodities of many kinds, including Negro slaves, and a great variety of European goods. The less tangible effects of commerce are found in distribution of vocabularies of such trade languages as Hausa, Umbundu, and Swahili, and in the reciprocal exchange of cultural traits, including handicrafts and the technical processes associated with these. In the course of time, these newly acquired factors become so welded into the culture which adopted them that the acquired traits appear to be part of the original pattern.

ARTS AND HANDICRAFTS

The only satisfactory study of this subject must be practically made in a well-equipped museum, where objects can be handled and compared. Nevertheless, an outline of the chief industries, with

notes on their techniques and distribution, can be given. Negro artisans are concerned mainly with working in iron, wood-carving, making pottery, and weaving baskets and mats. Dyes are manufactured from vegetable substances and used for coloring basketry and cotton cloth. Despite the importation of foreign cloth many Negroes, both men and women, are expert weavers on primitive looms. Working in leather and hides is a common industry which is highly developed in some parts of west Africa, and here brass casting is carried on in several centers. Carving in ivory, which was formerly a major industry in several localities, is now rapidly falling into desuetude. Bark cloth is still made, but the general tendency is to replace this clothing with imported cotton goods. Elaborate beadwork, some of which is made with cowrie shells, or with colored imported beads, is a Negro industry, the best examples of which are made by tribes of the Cameroons in west Africa and by Zulu tribes of the southeast of the continent.

In this section, the details of technical processes are subordinate to social, religious, and economic problems associated with handicrafts, since technology has been described in many scientific articles quoted in the bibliography. Division of labor according to age, sex, and special aptitude is important, as is the hereditary right to an occupation, and the formation of guilds of artisans. The best art of Africa has been produced under strong religious influence, as at Benin, and even the simplest industrial operations are by some tribes thought to be dependent on magical rites, together with the observance of prohibitions and the consultation of omens. G. A. Stevens (1935, p. 113) states, "Primitive art is the most pure, most sincere form of art there can be, partly because it is deeply inspired by religious ideals and spiritual experiences, and partly because it is entirely unself-conscious. There are no tricks which can be acquired by the unworthy."

Wood-carving.—The skill of Negroes in wood-carving has attracted more attention than any other form of Negro art. Many of the timbers used are extremely hard species, such as mahogany and ebony; the skill of the workers is attested by the beautiful results achieved with only an adze, an ax, and a knife as tools. The adze and the ax are generally one tool whose form is changed by reversing the direction of the cutting edge. A Negro wood-carver does not attempt joinery, but hacks each form from a solid block of wood, securing a rough outline with his adze and ax, then carving the details with his knife. Joinery may be seen here and there; for example, the Ovimbundu



FIG. 96. Carved wooden drum, Bamendjo tribe, Cameroons. Scale about 1:8.

make stools with neatly jointed legs, but this is due to European influence, and older stools were well carved from one matrix.

The most massive wood-carvings of Africa are made in the central area of the Cameroons, where elaborately carved window frames, door posts, beds, stools, drums (Fig. 96), and large effigies of human beings are produced. Small carving is exquisitely done by the Bushongo of the southwest Congo, whose memorial figurines and drinking cups are works of art. The Ovimbundu are skilled in carving animals, ornamental staffs and batons for chiefs (Figs. 99, 100); so also are the Zulu and some tribes of the Cameroons. Carving of small human figures that are used in magical rites and ancestor worship is typical of the west coast regions from Sierra Leone to Nigeria, thence through the Cameroons into the Congo region and Angola.

General resemblances in the styles of Negro art are noticeable, but with practice local styles are soon recognized. Masks from the Ivory Coast, Dahomey, the Yoruba of Nigeria, and the tribes of the central Cameroons have each their distinguishing characteristics. The use of masks is connected with initiation ceremonies and rites, in which performers who wear the masks are impersonating spirits of the dead. That the art of the wood carver is closely connected with religious symbolism may be seen by inspection of wooden figurines in the temple of the god of Thunder at Ibadan. Carved drums and stools are in some localities shrines for the reception of ancestral spirits during rites of ancestor worship. Wood-carving of Negroes should not be considered merely as a form of esthetic expression; on the contrary, the whole background of the social and religious life should be taken into account for the interpretation of styles and symbolic patterns.

Some domestic utensils show excellent workmanship, and among these are well-carved wooden spoons and food bowls. Wooden pillows are often beautifully carved, and, before the introduction of metal combs from Europe, wooden hair combs were delicately wrought. The Vachokwe of eastern Angola still produce wooden combs of great artistic merit. The Barotse and the Ovimbundu specialize in carving figures of animals in natural poses, but these have no magical significance.

Negro carvers have a trained eye for geometrical designs (Fig. 97, *a*), which include triangles and lozenges that are well arranged in adaptation to the form of the surface which has to be covered. The most intricate design is one formed like a figure eight with intersections, yet devoid of confusion and overlapping. This design may

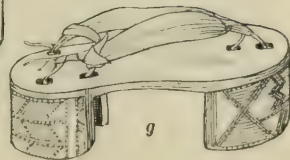
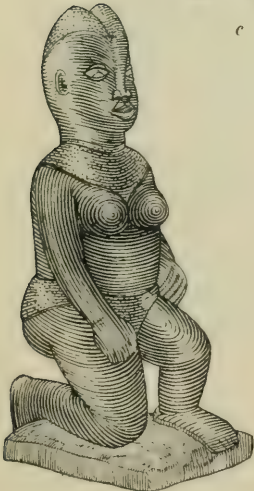
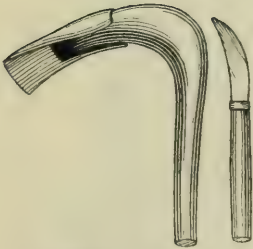
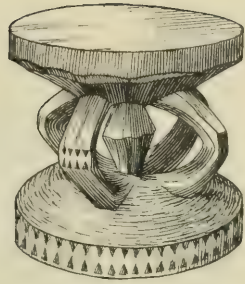
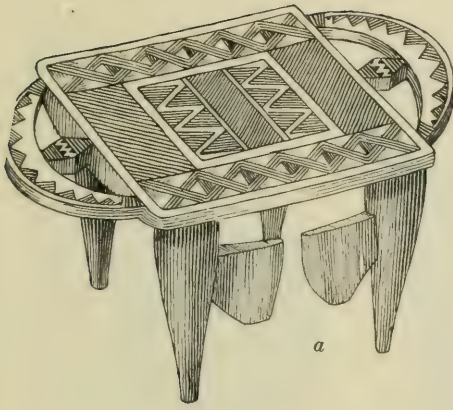


FIG. 97. Wood-carving, Nigeria.



FIG. 98. Carved wooden boxes for kola nuts, Benin Scale about 1:2.



FIG. 99. Carved wooden staffs and clubs, Ovimbundu and Vachokwe, Angola. Scale about 1:10.

be seen on cups carved by the Bakuba, on the lids of boxes from Benin (Fig. 98), on the brasswork of Nigeria (Fig. 105) and on the appliqué leather work of Kano.

Decoration of gourds (Fig. 101), which are the hard outer cases of fruits like pumpkins, is a widely spread occupation of Negroes; the artisans are male or female according to locality. The tools generally used are a thin saw for dividing gourds and a long scraper for cleaning out the contents. A long-necked gourd, when divided symmetrically along its length, makes two ladles. Sometimes a hole is cut in the rounded portion of a gourd and the neck is used as a handle. Round gourds if cut in two make open dishes or basins. If a gourd splits, the crack is neatly repaired with rattan laced through holes.

The surface of the gourd may be left in a natural state, and the patterns cut with a pointed knife; or they may be burned with a hot wire. Techniques are of great variety. In southeast Africa, the decorative incisions are often filled with soft white clay in which colored beads are embedded; these are kept in position when the clay hardens. In Nigeria alone, at least six distinctive local styles may be observed. The Yoruba of Ogbomosho scrape the gourds and cut deeply incised, geometrical patterns on the surface, which is quite white. The Nupe of Bida stain the surfaces deeply with indigo, so that the incised patterns stand out boldly in white on a blue background. In Kano and Maiduguri a red stain is used; then the patterns are produced by scraping away portions of the red stain so as to show the original yellow or white color.

Wood-carving is entirely in the hands of males among Negro tribes, and specialization follows personal choice and natural aptitude. In Ashanti and at Bida in Nigeria, the making of stools is a highly specialized craft. Among the Ovimbundu, some wood-carvers make animals, others are expert as carvers of stools, and certain specialists make drums.

In building houses, specialization according to sex is followed; for example, among the Ovimbundu men cut the timbers, dig trenches for the insertion of upright poles, and assisted by boys cut coarse grass for the thatch. Women are responsible for making clay to plaster the walls, which men construct by fixing crosspieces of timber to the uprights by lashings of bark rope. All the water for puddling the clay is carried by women, but children of both sexes have the task of tramping the clay to make it plastic. Women carry clay to the male plasterers. The workers were amused with my suggestion that a change of tasks could take place; they said that if a man



FIG. 100. Wood-carving, Ovimbundu tribe, Angola.

carried water the people would laugh and call him a "he woman." Division of labor in tribal life does not imply inferiority of women, and amusement arises, not from contempt of a male who assists in a woman's work, but from a sense of incongruity. Men readily help women to drag their fishing baskets if the current is swift, but a youth (homosexual) who dresses as a girl and pounds corn with women is beaten and ridiculed.

That division of labor is not a disparagement of woman by giving her menial tasks, is indicated by the local differences in allocation of tasks to males and females respectively. Usually Negro women make pottery, and among the Ovimbundu the occupation is confined entirely to women; but among the Baganda, men make pottery, and a map prepared by H. Schurtz (1900, Plate I) shows that this occupation is followed by males in several parts of Uganda, and in Bornu to the west of Lake Chad. The distribution map indicates an area near Gambia and Senegal where both sexes are potters.

In some Negro tribes both men and women are weavers of cotton, and the task of spinning is given to males or females according to locality. Women of the Ovimbundu tribe make all the baskets, but only men make mats, and a general study of sex dichotomy in labor leaves the impression of arbitrary selection. Yet the division of labor may not be fortuitous, for H. von Baumann's research tended to show that division of labor in agriculture depended on the dominance of matriarchal or patriarchal conditions, and the inference is that sex division of labor may have a historical connection and logical linkage with types of social organization.

In connection with wood-carving, some of the principles of Negro art will be mentioned; these principles apply also to work in ivory and casting in bronze. But, despite the similarity of the esthetic principles involved, the different limitations due to the nature of the materials in which the artisan is working should be recognized. Knots and flaws in wood, bubbles in molten bronze, and cracks in ivory test the patience and skill of the worker. The same may be said of manufacturing large pots, since breakages result from the difficulty of applying heat uniformly to the entire surface at the same time. To prevent such an occurrence, the pots may be hardened inside by lighting small fires in them before the batch is fired in the kiln. Negroes have in many ways shown consummate skill in overcoming difficulties imposed by the nature of the material.

Only in recent years have Negro sculpture in wood, brasswork, and carving in ivory been appreciated in Europe and America, and

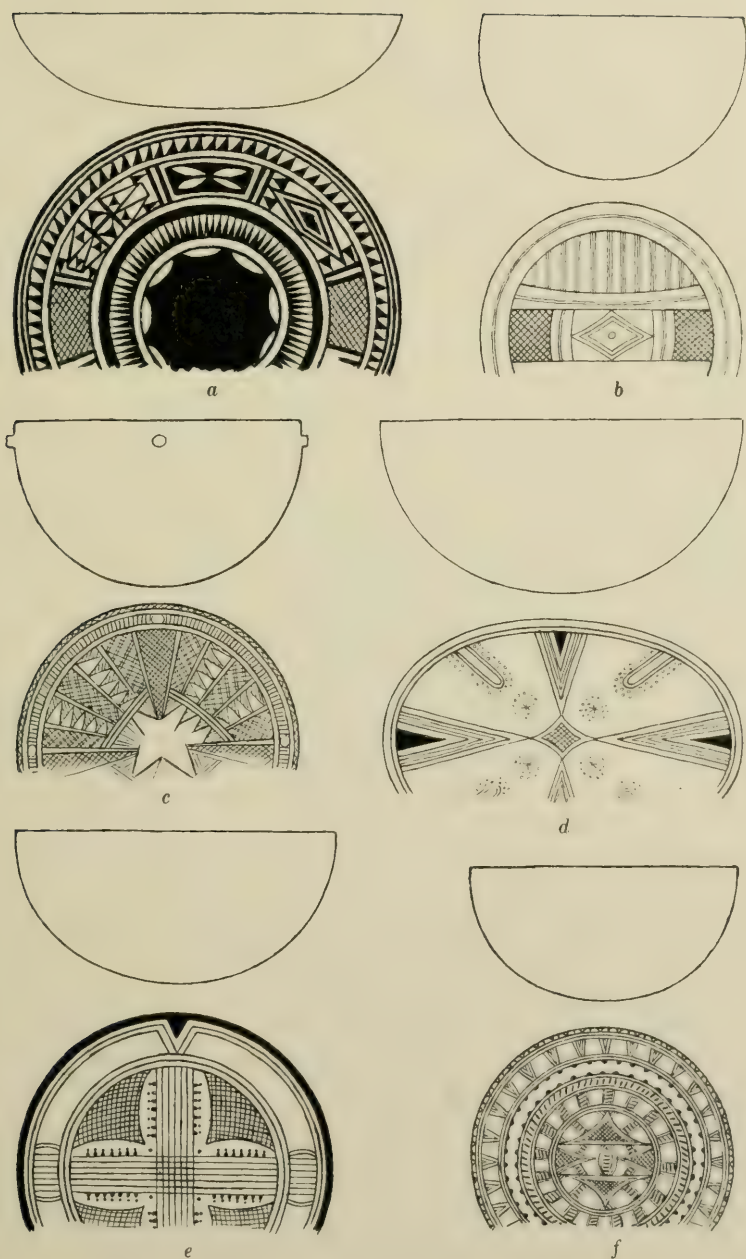


FIG. 101. Ornamented gourds, Nigeria. Scale about 1:7.

even now the recognition of merit is dependent on a consideration of the esthetic principles involved, while the impetus of social and religious forces is neglected. Art should never be considered in the abstract, but in relation to the cultural background which is fundamental to the art itself.

Negro art is an expression of soul and power. In this art there is a projection of a mental background which has brought the carving of masks and figurines to its present perfection. On first acquaintance with African art, the lack of natural proportions in the human figures is a hindrance to the perception of esthetic values; the mass is seldom divided so as to give natural proportions to head, body, and lower limbs.

But presently a student realizes that the peculiar merit of Negro carving arises from a conventionalized and deliberately planned treatment of line, plane, and mass according to the laws of balance and rhythm accepted by Negro craftsmen. But, in achieving an individual standard and a characteristic style, proportion and naturalism have been sacrificed. The art of Negroes has an urge and a number of fundamental concepts that an observer must learn to appreciate.

These comments can be illustrated by consideration of three concrete examples of Negro wood-carving (Fig. 102). Object *b* is the head of an ornamental club, which consists of a narrow oval mass of wood horizontally placed. This oval is too constricted to give a natural shape to the head, and an observer's first judgment is that the long axis of the oval should be in the same plane as the handle and not at right angles to it. But such a position would not have satisfied the artist's concept for carving the eyes and mouth; he felt that all the ovals must lie in the same direction.

Within the oval mass representing the head, a broad swelling plane at each side represents the cheeks, which are marked by pleasing curves giving a sense of balance. In order to conform in contour with the head, the eye-sockets are deep ovals whose major axis is parallel with the axis of the oval head. Within the eye-sockets, narrow oval eyes are carved. These are separated by a narrow nose, not a life-like nose, but one designed to avoid interference with the eye-sockets and the curves of the cheeks. The neck is too long to be natural, but this departure from proportion was necessary in order to raise the head above the shaft of the club, for a sculptured head too close to the shaft would have been ineffective and paltry.

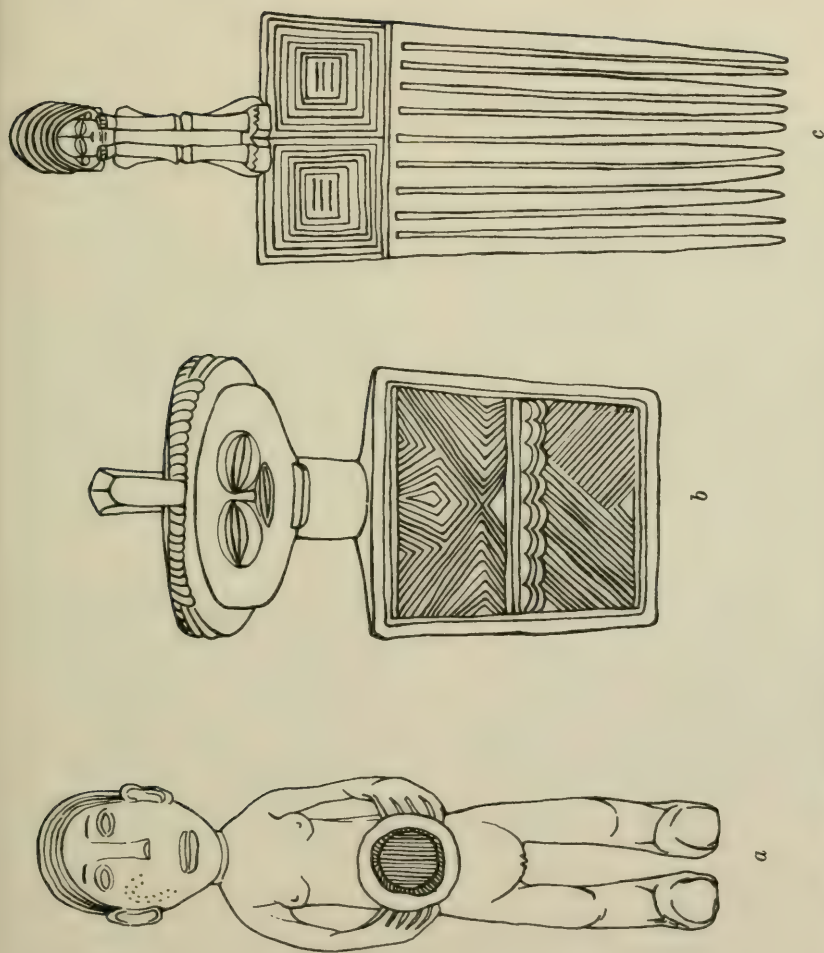


FIG. 102. Wood-carving, Angola. *a.* Medicine-man's figurine, Ovimbundu, Cuma. *b.* Head of club, Vachokwe, Cargamba. *c.* Hair comb, Vachokwe, Mona Quimbundo. Scale about 1:2 (from sketch by Miss Lucile Ward).

The head is covered with carving representing the usual coiffure of the Vachokwe tribe. In imitating closely braided hair, the sculptor has adopted the pleasing effect of a large number of curves repeated at intervals, with symmetry. When carving this club, the artist conventionally divided the mass. He effectively employed planes for the cheeks, and lines served his purpose for details of hairdressing. Thus he intelligently used the three dimensions of mass, plane, and line to produce a preconceived effect, but the result is not one that conforms to the natural shapes and proportions of human features.

In the small figurine of a female (Fig. 102, *a*), the matrix has been divided into three almost equal parts. This was done to give prominence to the main feature, which is an abdominal cavity for holding magical substances, when the figurine is used in connection with an ancestral rite. Had the legs been of the right proportion, the abdomen would have been too high; the artist desired this part to be central. The knees were flexed to shorten the legs, and the importance of the cavity was emphasized by sculpturing one hand of the figurine on each side of the abdominal hole. The use of mass, plane, and line is such that the figure can be turned into various positions with pleasing results in the combination of curves and planes that give symmetry and balance.

A squatting human figure (Fig. 102, *c*) on the top of a hair comb has the trunk erect and the knees sharply bent. The elbows are flexed and the forearms are vertical, with the elbows resting on the knees and the fists under the chin. The head is disproportionately large. By flexing both the upper and the lower limbs to bring the shins and forearms into a straight line, then by enlargement of the head, the matrix is divided into three equal parts, namely, the head, the torso, and the lower limbs. The rigid limbs form a perfect rectangle, and, to conform with the outline of this, the sides of the head are straight lines.

Use of Bark.—Bark of trees is used for various purposes. The Ovimbundu strip cylinders of bark from trees, divide these pieces longitudinally, and so make trays for carrying objects. A small pig is transported in a tray of this kind by placing the animal's feet through holes in the tray and tying them underneath. Large receptacles for grain are made by rolling strips of bark and sewing the edges together; such vessels are used by the Vachokwe of eastern Angola. Artistic work in bark is a specialized craft among the Wasukuma and Washashi of Tanganyika Territory. Illustrations

prepared by P. Kollmann (1899) indicate that a high degree of artistry is attained.

Bark cloth is still made by some Negro tribes, though the manufacture is falling into desuetude owing to importation of foreign cloth. In eastern and central Angola, the Vachokwe and the Vangangella follow a typical technique. The workers strip the outer bark from a tree which is specially chosen for this purpose, and after removal the bark is soaked for several days. At the end of this time the inner



FIG. 103. Grove, Ifé, sacred to Ogun, patron of blacksmiths. Contains first hammer and anvil of Ogun. Remains of a sacrificed dog are on the anvil.

layer of bark is easily detached, and after this process has been completed the sheet is laid over a log and beaten with wooden mallets. In some areas from which bark cloth has disappeared from common use as clothing, it is still employed ceremonially for such purposes as wrapping a corpse or making masks and costumes for initiation ceremonies. Painting of bark cloth is not usual in Africa, but the art is known among the Ashanti of west Africa and the Baganda of the northeast (M. Anna, 1936, No. 1, pp. 12-14).

Ironwork.—The blacksmith's craft is the most widely distributed of the metal-working industries, and forging is important among all Negro and Hamiticized Negro tribes. The ritualistic aspect of the craft is sufficiently important to require separate description, together with data of like kind relating to other industries. Iron-



FIG. 104. Bronze-casting from Benin. Scale about 1:4.

work is discussed by W. Belck (1907, pp. 335-381), W. Gowland (1912, pp. 235-287), and F. von Luschan (1909, pp. 23-59). Partington and Portier (1935) have fully considered the occurrence and utilization in Africa of gold and silver (pp. 23-39), copper, bronze, and tin (pp. 65-79), and iron (pp. 97-100). For a valuable summary on metallurgy see Cline (1937, large bibliography).

Rival hypotheses place the origin of the craft in Asia, in Egypt, or among the Negroes themselves. Data given by W. Gowland emphasize the importance of iron-smelting in Asia and southern Europe, and in Egypt also, during periods predating European contacts with Negro Africa. When the European penetration of Negro Africa began in the early sixteenth century, Negroes were expert blacksmiths, and so far as chronological considerations are concerned they might well have obtained their technique from Asiatic or Egyptian sources. But iron ore is abundant in Africa near the surface, and Negroes have a natural aptitude for handicrafts; therefore, there is no convincing objection to the theory that Negroes are responsible for the invention of their craft, though certain new ideas relating to types of bellows and smelting furnaces may have been derived from Asia Minor or India. To assume that Hamitic incursions are responsible for introducing the blacksmith's craft into Africa seems unwarranted, since the pastoral Hamites as they are known today relegate handicrafts and agriculture to sections of their communities whose social status is considered to be inferior to that of herdsmen.

The practice of winning iron ore and smelting it in high furnaces in which alternate layers of ore and charcoal are placed is becoming rare among Negroes, who now collect European scrap iron and forge it in charcoal fires. Blacksmiths make their own tools, including hammers, tongs, files, cutters, borers, punches, and pincers. Anvils may be large flat stones or flat-topped, iron spikes driven in the ground. The most common form of bellows consists of two or four chambers hollowed from a large block of wood; the fore part of the block tapers to a nozzle which projects into a clay pipe that leads into the fire. Over the chambers coverings of hide are lashed, and to these, long straight sticks are attached. Air is pumped by working the sticks vigorously up and down.

Principal products of the forge are hoe blades, spearheads, arrowheads, ax blades, and in regions where horses are used bits, stirrups, and hobbles are manufactured. Blades of knives and swords are products of the forge, and European influence is sometimes seen in the manufacture of scissors, tweezers, and razors of jack-knife pattern. Some blacksmiths make iron wire by drawing strands of hot iron through holes in an iron plate, but this branch of the craft is not of general distribution. From an economic and industrial point of view, the blacksmith's craft is of fundamental

importance in Negro tribes. For distribution of types of bellows, see L. Frobenius' "Atlas Africanus."

Metal-casting.—Working with imported brass has two main divisions of technique, casting in molds and beating the metal into sheets. The casting process, which is known as *cire-perdue* or "lost-wax," was carried out with bronze at Benin when the Portuguese first arrived there at the end of the fifteenth century (Fig. 104). Both copper and tin are obtainable in Nigeria, and the alloy consisted of nine parts of copper to one part of tin. At the time of first European contact, the art had reached its zenith, but a decline of technique has gradually taken place.

At the present time, the Obba of Benin maintains in his courtyard a small industrial school. Here he endeavors to revive the ancient skill and pride which were formerly associated with carving in wood and ivory, and casting in bronze. Brass is now used for metal work, but the process is the ancient one of making the object first in wax. The wax model is embedded in a mass of clay, which is heated so that the wax runs out from a hole provided for that purpose. Molten brass is poured into the mold to take the place of the melted wax, and when the brass has solidified the mold is broken away. The object is then smoothed with a file (H. Balfour, 1910, pp. 525-528; L. W. G. Malcolm, 1923, No. 1).

In this manner bronze heads, staffs, bells, and masks were formerly manufactured for use in religious ceremonies that were performed about an altar in the Obba's compound. At the present day, only a few bronze heads remain on this altar. The famous carved ivory tusks were absent in 1930, but some have recently been replaced. In the year 1897, a British punitive expedition sacked Benin as a reprisal for the murder of British subjects. The treasures of bronze, wood, and ivory which now appear in museums and private collections were looted at that time (H. L. Roth, 1903; Marquart, 1913; Von Luschan 1916, 1919). Unfortunately, very little information was obtained respecting the uses and symbolism of the objects.

The geographical distribution of centers of casting, together with similarity of technique in different localities, suggests a process of diffusion rather than several independent inventions. The origin of the craft is unknown, but casting in bronze was practiced in Egypt more than three thousand years ago, and the technique of west African Negroes may well be a derivative from that of ancient Egypt (Petrie 1910, p. 101). Brass is still cast in Ashanti, Dahomey,

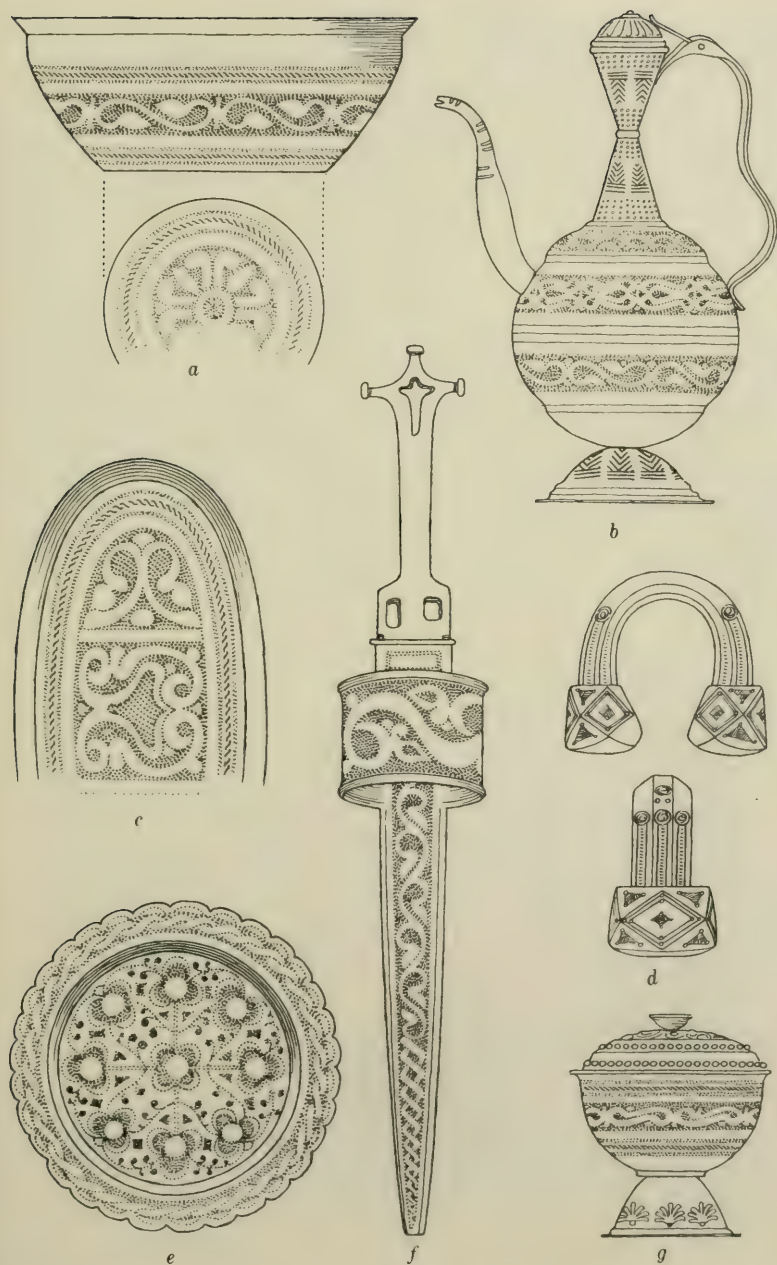


FIG. 105. Beaten brasswork, Nupe tribe, Bida. Scale about 1:5.

the Cameroons, and Nigeria. In former years, casters of bronze formed a special trade clique which worked only in the ruler's compound, where materials, personnel, and technique were under royal control. At the present day, casting in brass tends to be the preserve of particular clans. In Nigeria, the Bachama and the Bata, like the Bura of Bornu, make brass tobacco pipes and ornaments by the *cire-perdue* process, the industry being in the hands of the Killa clan (Meek, 1931b, vol. 1, p. 23).

Two notable centers for beaten brasswork are Bida (Fig. 105), and Old Calabar in Nigeria. Workers at Bida beat out the cold metal rods into thin sheets, which are gradually pounded to the forms of bowls and trays. Some of the bowls are symmetrical octagons or hexagons, and trays two feet in diameter are made in this way. Complex geometrical patterns are punched on the surfaces. Certain objects show European influence, but scabbards for knives, bowls for holding kola nuts, and vessels for containing water for ablutions before prayer are of Negro provenance and technique.

Silver.—Working in silver is geographically restricted. The distribution and technique of the craft suggest that this trade migrated across the Sahara from north Africa, where in Algeria and Morocco the art has been developed for a long period. At Agades in the south-central Sahara, silver work is a specialized occupation, though the craft is sometimes combined with that of the blacksmith. Beaten silver work is made at Kano in northern Nigeria and among the Nupe of Bida in the southwest (J. W. Scott-Macfie, 1912, pp. 281–286). Craftsmen of Bida make silver sword scabbards and hilts for daggers. The finer work includes satchels for charms, and the chains for suspension are of excellent technique. Silver rings are cast by the *cire-perdue* process. At Kano, the beating of little silver bowls, finely chased, is a special aspect of the silversmith's art.

Pottery.—Making pottery is a staple occupation in Negro Africa, and great symmetry is obtained without the use of a potter's wheel. Frequently two women work together, one preparing sausage-like rolls of clay, while the other uses these to build up the pot in a basket. The clay is made more binding by adding to it pulverized fragments of an old pot. A pot is usually molded to shape by the hands of the potter, whose only tool is a piece of gourd with which she smooths the wet pot inside and out. Some artisans polish the outer surface with a smooth pebble (Fig. 106, *a*). When making a large pot, the lower part of the vessel is allowed to dry before the middle and top sections are added; otherwise, the weight of the upper part would



a



b

FIG. 106. Making pottery, Ogbomosho, Nigeria. *a*. Polishing a pot with a pebble. *b*. Firing insides of pots.

cause the damp base to sag. Some workers use a slat of wood and a stone pounder with a hand-grip for shaping a pot. This method is followed in Kano, Nigeria (Fig. 107, *b*).

While the clay is damp, ornament may be added by pressing a rope round the pot, by rolling a grooved stick, by notching with a sharp sliver, or by running an ornamented metal bracelet round the moist clay. After the pots have been dried in the sun, they are baked in a kiln made from a heap of dry grass. In some regions, a vegetable or mineral varnish is applied while the pots are hot, so that a bright-colored surface is obtained. Jet-black pottery is sometimes produced by holding the vessels in smoke which permeates the pores. The insides of pots are fired to prevent cracking while in the kiln (Fig. 106, *b*).

Glass.—Glass is made at Bida in Nigeria and at another center in Ashanti not far away. The origin of the industry is unknown, but the few men who are employed at Bida belong to a family which has a monopoly of the glass industry by hereditary right. The artisans used to make their glass from silica, but now they melt European bottles, which are made into bangles and beads. A worker takes from the clay furnace a glowing mass of glass, which he manipulates at the ends of two long iron rods until the viscous glass is drawn out to the necessary thickness. White streaks are introduced into green or blue glass by laying on the molten mass thin wisps of white glass made by melting European beads. The product is a colored bangle flaked with white. (R. P. Wild, 1937.)

Stone.—Working in stone is not a common Negro industry, but at Ilorin some Yoruba workmen make excellent beads from cylinders of hard, polished stone about two inches long. The beads are drilled with an iron punch that is tapped with a small hammer while the worker holds the beads between his toes. The beads are rubbed smooth on a stone (Hambly 1935a, pp. 432, 437; F. Daniel, 1937, No. 2).

Ivory.—Working in ivory is becoming increasingly rare for reasons previously noted. In past centuries, the Bini of Benin produced the finest ivory-carving in Negro Africa, chiefly in the form of large ornamented tusks which were placed at each side of the Benin altar. In 1930 only two small tusks were in the artisan's shop at Benin. Under the direction of the Obba, an effort was being made to carve these in the traditional manner. A knife with a sharp point was the instrument used.

The Monbuttu of the northeast Congo region still produce carving in ivory. The statuettes with Negro motifs are of great merit, but much of the work, including napkin rings, spoons, crocodiles,

and elephants, is due to European demand. In all parts of Negro Africa, ivory bracelets and large anklets were used, but these are now rare owing to scarcity of ivory and introduction of European ornaments. Near the coasts of Nigeria, the Cameroons, and French Equatorial Africa, pen holders, cigarette holders, flower vases, and animals forms are carved in ivory for sale to foreigners calling at the ports. The fashioning of ivory, past and present, has been described by H. Lang (1918, pp. 527-552), and E. D. Moore (1931, pp. 649-655, 718-723) has shown the importance of the ivory and slave trade in the social and economic life of Negroes.

Hides and Leather.—Treatment of hides is an industry that needs a preliminary classification into two kinds of technique. On the one hand, there is the elaborate workmanship of centers such as Agades, Kano, Timbuktu, and areas inhabited by the Mandingo; here the products are carefully tanned, dyed with colors of indigenous make, and fashioned into a variety of articles, including bags and cushions of an ornamental kind. This industry of west Africa is probably a derivative from Morocco, and more remotely from Egypt. Saddles and other trappings for camels and horses are of advanced technique, and each center of manufacture has a distinctive style of cutting, and ornamenting by pasting, sewing, or plaiting. The use of dyes is distinctive of certain localities. This type of leather work has been described by A. van Gennep (1913), and Dupuis-Yakouba (1921).

On the other hand, and as a noticeable contrast to this elaborate work, there are widely distributed processes of treating hides, which are neither tanned nor dyed. Men of the Vakwanyama tribe of south Angola make belts and skirts for women. The hides are soaked and trodden under foot (Fig. 94, *a*) until they are pliable; then they are pleated, cut as skirts, and dressed with grease and red powder made by desiccating *takula* wood (Fig. 66, *a*). The hair is not removed from the hide. Unprepared hides, from which the fat has been scraped without any other operation, are used by many tribes and for a variety of purposes. Women of the Angas tribe, Nigeria, carry infants in hide bags on their backs. The Ovimbundu of Angola cover the tops of their wooden stools with hide. Zulu and Hottentot tribes make skin cloaks (*karosses*) from pelts of the lynx and the rock rabbit (*hyrax*). Many Negro tribes make leather shields, quivers, pouches, and membranes for drums, by a simple technique such as that described by Vaughan-Kirby (1918, No. 23).

Weaving.—The history of the cotton shrub in Africa is uncertain, but for centuries certain Negroes have cultivated the plant, and

before the arrival of Europeans weaving on primitive looms had attained a high degree of proficiency. The types of African looms have been described in detail by H. Ling Roth (1917, pp. 113-150), who distinguishes seven main varieties. He provides a map showing the geographical distribution of each type and discusses the possibilities of their introduction from foreign sources, together with the likelihood of independent invention in Africa. The article is technical, with detailed descriptions of the parts of each type of loom, and an account of the methods of inweaving colored patterns. Ling Roth suggests the probability that the loom for weaving raffia mats (Fig. 108, *b*) is indigenous to the heart of Africa, and the vertical cotton loom may have been adopted from an ancient Egyptian prototype which spread over north Africa, then southward into west Africa.

In addition to the weaving of cotton, the spinning of cotton thread is an important industry even after looms have been abandoned, because the yarn is required for repair of imported cotton cloth. The employment of males or females according to local custom has previously been mentioned. In Nigeria, men use a horizontal loom for weaving cotton (Fig. 108, *a*) but women use an upright loom.

The dyeing of cotton yarn, especially by use of indigo which is contained in deep pits or in earthenware vats, is a typical industry from Sierra Leone to the Cameroons. Imported dyes for cotton yarn and basketry are recognizable by the crudity of their colors, which are a noticeable contrast to the soft shades of native products. Tie-dyeing of cloth occurs in west Africa, but the procedure is not general among Negroes. S. de la Rue (1930, p. 192) gives an account of the processes he saw in Liberia. Several dozen stones were tied in a piece of imported white shirting. Each stone was tied separately. White marks were left in the places which the dye could not touch because of the tight strings. Some of the finest weaving of wool is done in north Africa (Fig. 109), and compared with this, Negro work in cotton and raffia is extremely coarse.

Weaving in raffia fiber, which is made from the leaves of the raffia palm, is carried out in regions of west and central Africa. The photograph (Fig. 108, *b*) shows two men of the Cameroons working typical looms of the upright pattern. With this apparatus mats are made, and into these colored strands of raffia are worked to form geometrical patterns. The technique of this industry, which attains a high degree of specialization in the southwest Congo regions, has formed the subject of technical articles by T. A. Joyce (1925, pp. 105-110) and J. Maes (1930b, pp. 393-408).



a



b

FIG. 107. a. Winding cotton, Iseyin, Nigeria. b. Making the base of a pot by pounding clay, Kano, Nigeria.



FIG. 108. Weaving by men. *a.* Weaving cotton, Kano, Nigeria. *b.* Weaving raffia fiber, Cameroons.

The plaiting of mats and baskets by hand from raffia and grass is a common occupation of Negroes, male or female, according to locality. Specialization is practiced in the manufacture of different types; among the Ovimbundu three kinds of mats are used, and mat makers, who are always males, specialize in one of the three varieties. Binding wisps of grass to make coils, and the fastening of these to form baskets was an Egyptian craft several thousand years ago.

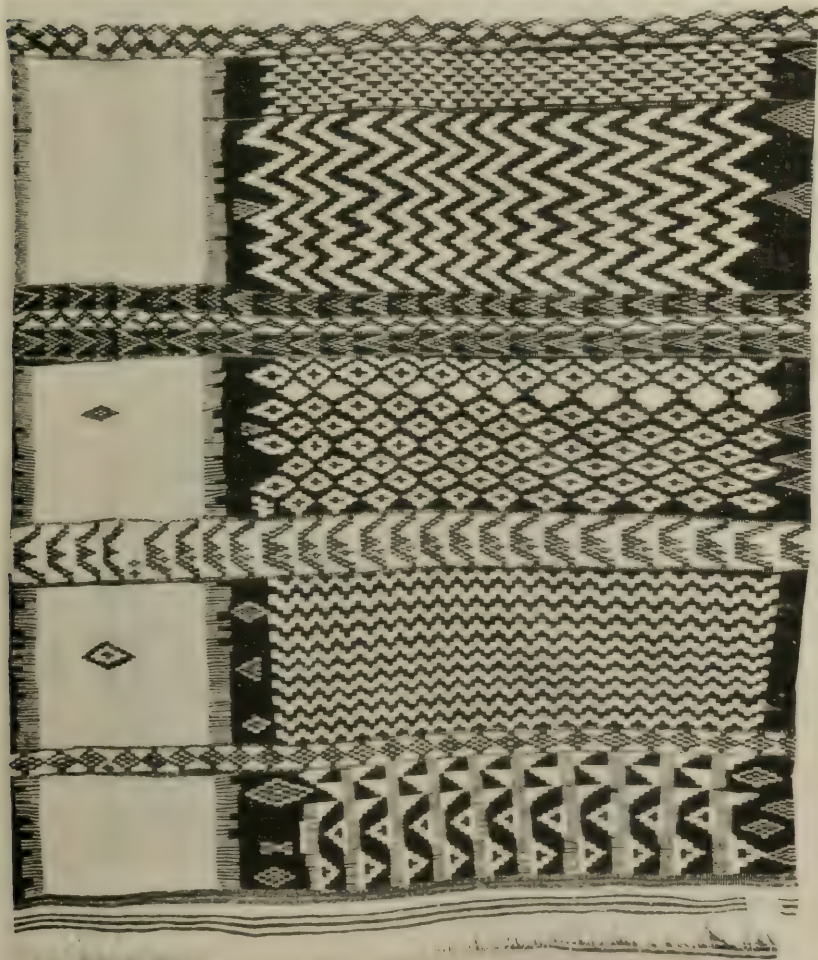


FIG. 109. Woven Kabyle rug (presented to Field Museum by Mr. Homer E. Sargent).

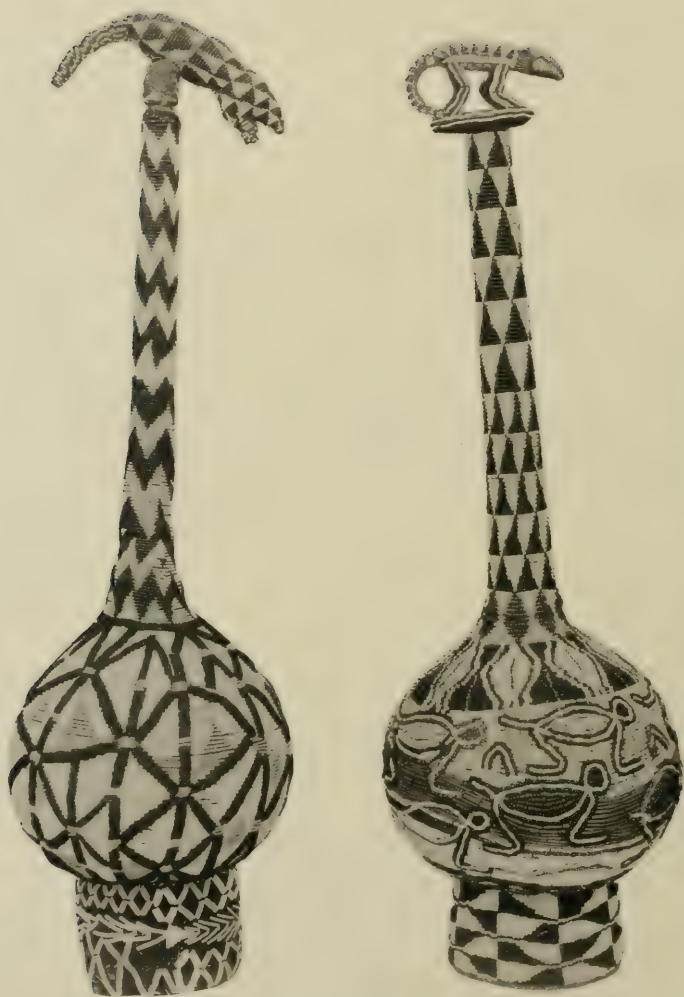


FIG. 110. Beaded gourds for holding palm wine. Scale about 1:5.



FIG. 111. Beaded wooden stool, central Cameroons. Scale about 1:5.

The Ovimbundu, in common with many Negro tribes, excel in making dyes for coloring the vegetable fiber used for weaving patterns into the baskets; the colors are amber, blue, red, and black. All the shades are soft and the colors do not fade when exposed to sunlight. The method of making these dyes consists of boiling the fiber in a solution of the color required; the pigments are extracted from indigenous, uncultivated plants. Black coloring is produced by soaking fiber in a particular kind of black mud. Variety in shade is secured by adding to the boiling pigment a quantity of mud in which an iron stain is found; this changes a bright red to a reddish brown.

Bead Work.—Skilled work with imported beads is characteristic of the central Cameroons, where beaded flasks, stools, and stems for tobacco pipes are made (Figs. 110, 111). For a description of aggrey beads see C. H. Read (1905), Cardinal (1924–25). Zulu tribes make girdles and headbands with inwoven colored beads.

Covering basketry closely with cowrie shells is an indigenous Negro occupation which reaches its highest development at Kano in northern Nigeria, and parts of Cameroons. Artisans cover baskets and platters with neatly sewn cowries placed so closely that the basket cannot be seen. In a few centers glass, stone, or eggshell beads are made by Negroes, but artisans rely chiefly on imported beads.

RITUAL AND OCCUPATION

Even among the Ovimbundu and other Negro tribes which have been in contact with Europeans for centuries, ritual and occupation are not yet divorced. The ceremony of inaugurating a young blacksmith among the Ovimbundu is typical of the rites which prevail among Negroes in connection with the ironworker's craft. While the master blacksmith is finishing the large hammer *onjundo*, which will be presented to the pupil together with other tools, the youth stands on an anvil. After the sacrificial animals have been slain and the tools sprinkled with their blood, the master says, "You may speak and tell us what name you want." Perhaps the novice will say, "I am Ndumbu," whereupon the spectators clap hands, make a trilling with their mouths, and shout the name Ndumbu as the boy steps from the anvil. This and other ritual acts connected with occupations of the Ovimbundu are reported by Hambly (1934a, pp. 157–167).

This instance of rites in connection with a blacksmith's work is typical of beliefs, ritual, and taboos associated with this craft in Negro and Hamiticized tribes; seldom is the ironworker's occupation

regarded as secular only. Reference to Fig. 103 illustrates the sacredness of the blacksmith's occupation at Ifé in Nigeria. There the grove sacred to Ogun, patron of the blacksmiths, may be seen today. A large stone, said to be the first hammer of Ogun, is prominent in the grove, and not far away is a stone anvil on which a sacrifice of a dog is made periodically. Blacksmiths of the Ibo of Nigeria form a union which resents any attempt to pry into the craft secrets.

Southwest of Lake Bangweolo a small shrine is erected near the smelting furnace, where a prayer is offered to the spirits of former smelters before the work of smelting is begun (H. B. Barnes, 1926, p. 191). The Ba-ila have a principal blacksmith named the "iron doctor," who conducts ceremonies connected with digging iron ore and smelting it. Secrets of the craft, which is hereditary from father to son, are handed down in families (Smith and Dale, 1920, vol. 1, p. 102). Torday and Joyce (1905, p. 406) say that blacksmiths of the Bambala have a T-shaped hammer with a pointed handle. "It is practically impossible to obtain a specimen of these hammers, since death is the portion of a smith who parts with his tools." The Masai and other Hamiticized pastoral tribes declare that blacksmiths are unlucky with cattle and must not keep them; therefore, workers in iron, though not necessarily despised, form a separate caste, with their own rites, occupations, and, in some instances, language (G. W. B. Huntingford, 1931, No. 262; W. Cline, 1937, pp. 114-128).

Among the Ovimbundu, traces of ritual other than that pertaining to blacksmiths still remain, and in the majority of tribes there are similar acts that may be vestigial rites of ceremonies that were formerly more complex. The researches of R. S. Rattray indicate that, in Ashanti, ritual associated with handicrafts is particularly well preserved (Rattray, 1923, pp. 215-315).

In former days, Ashanti craftsmen, including metal workers, weavers, potters, and wood-carvers settled near Kumasi to work for the king, and the idea of trades guilds was developed. A blacksmith's forge was consecrated by killing a fowl and allowing the blood to drip on the forge. In Ashanti, eggs, which are symbols of fertility, are often used in making sacrifices. The breaking of eggs against a forge and rubbing the bellows with broken eggs are typical of many similar rites. Sometimes the bellows of a blacksmith are used as a shrine on which the wife of a blacksmith has to swear her innocence if accused of adultery.

Bark cloth is still of ceremonial importance. At the *odwira* ceremony for invoking aid from the spirits of dead kings, the reigning

king discards his robes and attires himself in bark cloth. Bark cloth is used as shrouds for the royal dead.

Weaving cotton is confined to Ashanti males, but women who have reached the menopause plant cotton seeds, pick the cotton, remove the seeds (ginning), and spin the thread in preparation for weaving. Women are debarred from weaving because of their menstrual periods, and a menstruating woman must not touch a loom or speak directly to her husband if he is a weaver. A weaver's sons generally become weavers, and a hereditary right to certain patterns is handed down in families. In olden times, the king held the copyright of all new designs, some of which he reserved for his own use, while the use of other patterns was granted to court officials. Plain cloth is sometimes stamped with wooden blocks that have been dipped in dye prepared from bark boiled with iron slag, and the designs have names with historical, allegorical, and magical significance. Facts bearing on weaving show the development of a specialized industry with advanced technique, whose success depends on division of labor according to sex, hereditary rights, and the observance of rites and prohibitions.

Wood-carving is closely associated with religious belief in Ashanti because of the sacred nature of the products which are used as symbols and shrines. Ancestral stools which now function in rites of ancestor worship are the most important product of the wood-carver, while figurines representing sacred persons, drums, and umbrellas have more than a secular function because of their association with religious rites. Before wood can be used for making a sacred object, the tree which is to be felled receives a sacrifice of eggs or a fowl, in order to propitiate the spirit within the wood. Wine and blood are poured over tools so that they will cut well, yet without danger to the artisan. Unfaithfulness of a wife will cause her husband to cut himself. Many objects made by wood-carvers are evidently tangible links between the sacred and the secular.

In connection with the potter's art in Ashanti, many beliefs and prohibitions exist. Making pots is a hereditary craft which is handed from mother to daughter, but men fashion bowls for their tobacco pipes, also certain forms of pottery that a woman must not make lest she become barren. A lucky girl is chosen to ignite the fire for baking the pots, and the pots must not be counted before baking. To break a pot intentionally is a serious offence which is expiated by sacrifice of a sheep. Taffo near Santan River is a center for pottery, but clay must not be taken from the river on Friday. Sacrifice has

to be offered at the Santan River as an annual ceremony, and as a special rite if baking is resulting in the fracture of pots. The sacrifices consist of fowls and palm oil, offered to the spirit of the river, to whom a petition for success in making pottery is addressed.

The most impressive fact in connection with every phase of economic life, whether hunting, agriculture, fishing, rearing cattle, or proficiency in handicraft, is the spiritual attitude of the workers. Training and skill are not disdained; on the contrary, both are fostered by selection according to natural ability, hereditary right, and the formation of guilds. Fundamental factors in the division of labor are age, sex, and specialization within each trade. All these social factors constitute the secular requirements necessary for industrial efficiency. But more important are spiritual requirements, which give an urge and a guarantee of success.

Religion and magic are the vitalizing principles of economic life; therefore, industrial competence is thought to depend on the preservation of beliefs, ritual observances, and prohibitions. Foremost among the spiritual aids to successful labor are rites of ancestor worship on which fruitful agriculture depends, while successful hunting is likewise dependent on magical observances or definite acts of ancestor worship. But, in addition to these major observances which assure a supply of food, achievement in industry depends on numerous minor rites and taboos without which an artisan feels that his skill will be void.

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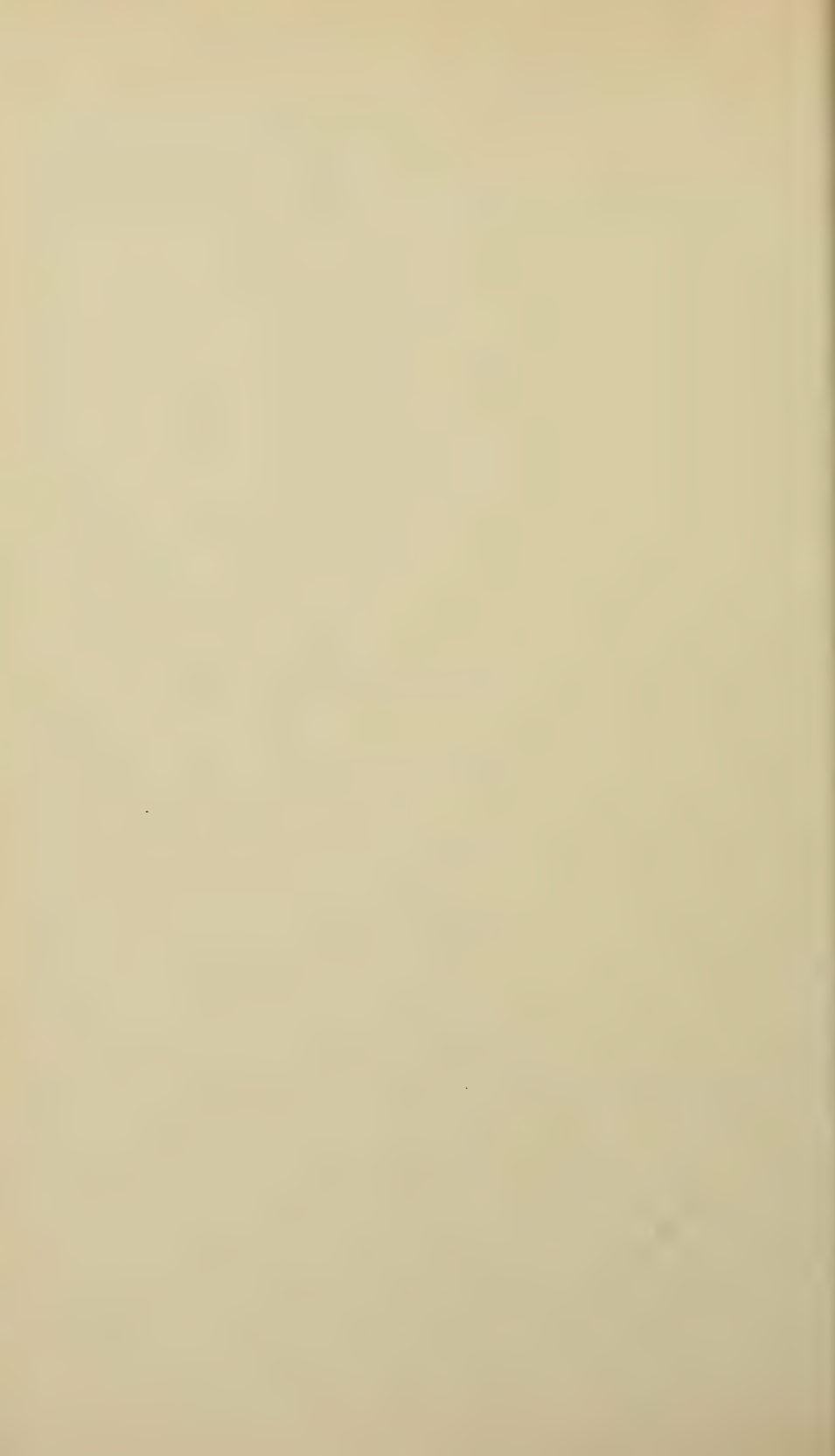
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SECTION IV. THE EUROPEAN PERIOD



I. EXPLORATION

MARITIME ENTERPRISE

Exploration of the coast and interior regions of Africa by geographers, adventurers, traders, and missionaries provides a logical introduction to a review of the political, commercial and social problems of the present day.

In exploration, as in literature and art, the achievements of one genius have stimulated the ambition of others; consequently, progress has been marked by periodical activity, with intervals in which no advance was made except the addition of details by those who followed the steps of a first pioneer. Therefore, the natural tendency has been to emphasize the importance of a few names of distinction, while ignoring the efforts of many who consolidated the initial enterprise.

But to rectify these omissions by attempting a detailed account of the opening up of Africa would result only in a colorless list of names and dates, and space will permit no more than an outline that provides a basis for discussing the problems which have resulted from the partitioning of Africa among European powers. Details of exploration may be filled in by consulting Keane (1907) and Featherman (1885) for the period A.D. 1600-1880. Two useful introductory textbooks on the opening up of Africa are by H. H. Johnston (1899, 1911). Current exploration is reported in the periodicals listed in the Bibliography of Periodicals under the following abbreviations: BSGI, BSNG, GJ, GR, L'AF, LG, NGM, PM, UE.

The first achievement in a long but interrupted period of maritime enterprise is that mentioned by Herodotus (IV, 42), who gives an account of the circumnavigation of Africa by Phoenicians sent out by Necho, king of Egypt, about 600 B.C. The voyage occupied three years, during which the navigators sailed round Africa from the Red Sea to the Pillars of Hercules, now the Strait of Gibraltar. In modern times, there is a difficulty in appreciating the courage which was necessary for early maritime enterprise. Navigators of the fifteenth century feared that the edge of the world might be reached, while imagination, unrestrained by scientific knowledge, pictured cyclopean giants, strange monsters of land and sea, and the wrath of a deity who might punish an impious curiosity.

To Herodotus (500 B.C.), historians are indebted for a description of the silent trade of the Carthaginians on the northwest coast of

Africa. Merchants from Carthage set their merchandise ashore. Then they retired to their ships and made a great smoke, while the inhabitants deposited gold and withdrew to a distance. If the quantity of gold was sufficient payment for the goods, the Carthaginians accepted it and sailed away, possibly without a glimpse of their customers; but if dissatisfied with the gold tendered, the Carthaginians returned to their vessels and awaited a further offer. Neither party wronged the other, and long after the Phoenician city of Carthage had been sacked by Rome this silent trade continued between Spaniards and Africans, even into the fifteenth century (Grierson, 1903; Bovill, 1929).

From Carthage sailed Hanno, whose voyage to the Island of Gorillas (or chimpanzees), about the year 500 B.C. is one of the classical exploits of early discovery. Hanno's Mountain of Cave Dwellers may be the Atlas Range, the River of Crocodiles and Hippopotamuses is possibly the Senegal, and the "high green headland" is likely to have been Cape Verde. The island of Sherbro near the coast of Sierra Leone might be Hanno's "island of hairy men." But none of the attempts to reconcile the geography of Hanno's narrative with the present coast-line have been successful (Palmer, 1931; Bovill, 1933a, p. 15).

The Nilotic explorations of centurions sent by Nero about 60 A.D., and the Saharan journey of Julius Maternus about eighty years later have previously been mentioned in connection with the history of the Roman Empire in north Africa.

The most important document relating to early exploration of the Indian Ocean (Erythrean Sea) is the *Periplus*. Copies of this manuscript in London and Heidelberg do not enable historians to determine either the exact date or the authorship of the record. But the descriptions of trade along the east coast of Africa, and with India, indicate that the writer was an Egyptian merchant of Greek extraction, who was personally engaged in commerce. W. H. Schoff (1912) finds that the document was prepared probably about A.D. 60. An important contribution of the *Periplus* to geographical knowledge is a proof of the extension of Africa and India far to the south of points that had been previously considered as the southern limits of land.

A map prepared by Strabo in the eighteenth year of our era shows an inaccurate outline of Europe, a small portion of north Africa marked Libya, the Arabian peninsula, and a rectangle of land for Asia. Twenty-five years later Mela gave a rough outline of a

mass of land in the southern hemisphere, as if he guessed at the southern extension of Africa and the presence of Australia. This southern land was later mapped by Ptolemy, a Greek, who lived in Alexandria about A.D. 150. A complete survey of early cartography has been made by De la Roncière (1925), who reproduces many maps from the time of Ptolemy to A.D. 1600. Bovill's "Caravans of the Old Sahara" also includes prints of several old maps, and a summary of explorations.

Following a period of speculative geography, a remarkable era of navigation and interior exploration was begun by the Portuguese. Under the direction of Prince Henry the Navigator (1394-1460), a school for mariners and cartographers was founded near Cape Saint Vincent. With the aid of Genoese shipbuilders and men trained in the school of Prince Henry, tentative explorations of the northwest coast of Africa began.

In 1419 the Portuguese discovered the Madeira Islands, which are still a Portuguese possession, and there they introduced the vine. Exploration in the Gulf of Guinea resulted in Portuguese occupation of the islands of Fernando Po, São Thomé, and Príncipe. A fort was built at Elmina on the Gold Coast, but later this was taken by the Dutch, who settled on the coast of Dahomey, Nigeria, and the Cameroons. In 1460 a Portuguese captain reached the Cape Verde Islands, and another navigator of the same school entered the mouth of the River Gambia.

The year 1487, five years before the discovery of America, is an important date in the history of Portuguese navigation. In this year Bartholomew Diaz sailed round the Cape of Good Hope, but contrary winds and a threatened mutiny of his crew deprived him of the success that a few years later rewarded the intrepidity of Vasco da Gama.

After sailing round the southern extremity of south Africa, Vasco da Gama touched Malindi on the east coast, where he found an Arab navigator who piloted his vessel to India in twenty-three days; but three months were spent in tacking back to Africa against contrary winds. This voyage led to the founding of Portuguese settlements on the west and east coasts of Africa, the opening of a sea route from Europe to India, and a consequent decline of the overland trade from Europe to Asia. J. de Barros (1496-1570) was the first great Portuguese historian. He had practical experience in west Africa and India, and in addition to this he was a careful compiler of historical and geographical records which bear on the

activities of Arabs and Portuguese. The first volume of his "Asia" was published in the year 1522; the last volume appeared in 1615, posthumously.

The name of Diogo Cão (1482) is associated with exploration along the lower Congo, formerly known as the Zaire. He sailed up the river to the Falls of Yelala and there left on the rocks inscriptions that remain to this day. The sculptured record includes the royal arms of Portugal, the Christian symbol of the Cross, and a list of members of the expedition, some of whom are known to have sailed later with Vasco da Gama. Eleven years later, Diogo Cão ascended the Congo and founded the town of San Salvador. This settlement became a center of missionary enterprise and political intrigue, both of which deeply affected the course of events among powerful Negro confederacies of the region.

Gradually the Portuguese established themselves on the coast of Angola (Portuguese West Africa). A small part of Angola is situated north of the Congo estuary, but this is unimportant compared with the large portion of Angola south of the river. From 1576 onward the maritime towns of Loanda, Benguela, and Mossamedes were founded, providing bases from which military and commercial expeditions penetrated the interior.

The Portuguese made a contribution to the culture of Africa by introducing maize, manioc, groundnuts, and possibly sweet potatoes, from South America. Angolan tribes, especially the Bihéans, were encouraged to conduct caravans into the far interior in search of ivory and slaves, two items of merchandise that have colored the history of Africa. From the eastern side of the continent, the Portuguese were equally active, for they wished to gratify the ambition of connecting their west and east coast possessions by a chain of military and trading centers.

Colonial expansion of the Portuguese is attributable, not only to enterprising explorers and traders, but also to Jesuit missionaries, who made converts of powerful African chiefs. These chiefs then exerted their influence in favor of the Portuguese. As early as 1491, Diogo Cão brought missionaries to the Congo, and an important evangelizing center was founded at San Salvador. The writings of A. Cavazzi (1687) and J. Merolla (see A. and J. Churchill 1704, vol. 1) contain material of historical and ethnological importance. Torday (1928b) has collated historical evidence to show the widely spread political and cultural influence of the Kingdom of the Congo.

On the east side of Africa, Portuguese Jesuit missions, together with military and commercial enterprise, attempted exploration of the Zambezi basin. Two important Portuguese centers were founded at Tete and Zumbo, but an attempt at Christianizing the powerful kingdom of Monomotapa was unsuccessful.

Near Massawa, which is now in the Italian territory of Eritrea, the Portuguese penetrated Abyssinia, where they exerted a strong religious and military influence during the sixteenth century (Alvarez, 1881). The Portuguese were successful in aiding the Abyssinians to preserve their Coptic Christianity against Mohammedan aggression (Ray, 1928).

One of the most absorbing narratives of missionary travel in Africa is that of Father Lobo (1622), who, with great danger and privation, traveled extensively in Abyssinia. Still more remarkable is the romance of Andrew Battell, who was associated with both the Portuguese and the native tribes of north Angola about the year 1600. Battell, who was a sailor of the little town of Leigh in Essex, England, was wrecked on the coast of Brazil and seized by Indians, who delivered him to the Portuguese at Rio de Janeiro. From this town, which was engaged in the slave trade with Angola, Battell was deported, and finally he found himself with a warlike tribe named the Jagas of north Angola, whom he was obliged to accompany on their depredations.

For a period of eighteen years Battell gathered information in several parts of Angola and the lower Congo. This knowledge he communicated to the Reverend Samuel Purchase after returning to England. Time has proved the reliability of Battell's observations, and in "Strange Adventures of A. Battell" (Hakluyt Society, vol. 6, 1900), ethnologists have a valuable anthropological source book.

The preceding paragraph shows that without the interest of the recorder, Samuel Purchase, the story of Battell might have died with him, and a further instance of the enduring ethnological work of a man who did not cross his own national boundary is to be seen in "An Accurate Description of Africa," by O. Dapper (1668). Dapper showed a critical faculty in his analysis of the reports of many travelers. His scientific acumen winnowed the grain from the chaff, with the result that certain aspects of Negro religion and social structure were clearly interpreted.

In the following summary of facts relating to the exploration of Africa, confusion can be avoided by noting that attempts to open

up the continent were concentrated on exploration of the rivers Niger, Nile, Congo, and Zambezi. Therefore, the pioneer attempts will be grouped about these rivers as focal points in the history of discovery.

In addition to the works quoted, the following are important: R. Brown has summarized the exploration of Africa in four volumes. Hakluyt's "Principal Navigations" in eight volumes, and the works of Gollock (1928), are valuable sources. Hirth (1909), in considering early Chinese references to east Africa, has touched a field that is not well explored. J. Pinkerton's seventeen volumes form a compendium containing accounts of voyages of Portuguese and other early explorers. The translations of A. and J. Churchill and of J. Pinkerton are particularly useful, since the originals are expensive and difficult to obtain.

THE SAHARA AND THE NIGER

In north and west Africa, exploration was for several centuries concentrated on the course of the River Niger, whose termination had been a source of controversy since 500 B.C. The river had been said to flow across the continent to join the Nile, and a later rival theory stated that the Niger was a tributary of the Congo. The solution of this mystery was in the minds of all who approached the problem, no matter whether they entered the River Gambia on the extreme west of Africa to follow the Niger from its source, or crossed the Sahara Desert to the bend of the Niger, where Timbuktu is situated. In the twelfth century, Idrisi declared that the Niger flowed west, for he had confused the Niger with the Senegal, as the Portuguese did three hundred years later. This error was perpetuated by Leo Africanus, whose faulty account was widely accepted even at the end of the eighteenth century.

From the time of Leo Africanus in the sixteenth century, exploration of the Sahara made no progress until a revival of interest began in the early nineteenth century. A pioneer of the new movement was Hornemann, who was sent from Tripoli by the British African Association (1799); but he, like Major A. G. Laing, who crossed from north Africa to Timbuktu in 1825, was murdered in the desert. Contrary to popular belief, Major Laing was not the first European to enter Timbuktu. It was visited by a Florentine named Benedetto Dei in the year 1470, and possibly an earlier visitor was Anselm d'Isalguier of Toulouse, who spent eight years in Gao (1402). The observations of these early European explorers have been discussed by M. C. de la Roncière (1925, vol. 3, pp. 1-6).

Réné Caillié (1830) entered west Africa, journeyed to Timbuktu, and crossed the Sahara to Morocco. Caillié relates that he was educated at a charity school in France, where he was made to learn a trade which yielded small interest compared with his study of books of travel. He says, "The history of Robinson Crusoe in particular inflamed my young imagination, and I was impatient to encounter adventures. At last came the start, and all that I possessed was sixty francs, with which trifle I proceeded to Rochefort in 1816 and embarked in the brig *Loire*, bound to Senegal."

From Tripoli (1821), Denham, Clapperton, and Oudney crossed the Sahara between Murzuk and Bornu on the line 15° E. Long., which was a route leading through the salt-producing oasis where Bilma is situated, to Kuka on the west shore of Lake Chad. Denham explored this region and encountered many adventures as a result of the constant warfare between native rulers. Clapperton visited Sokoto in northwest Nigeria, an excursion that cost the life of Oudney, while Ensign Toole, who had remained with Denham, succumbed to fever. The diaries of the expedition contributed to historical, geographical, and ethnological facts concerning the Hausa state of Sokoto, the Bornu sultanate, and the desert route through Bilma and Tibesti (Denham, Clapperton, Oudney, 1828; Rodd, 1936).

To these Saharan enterprises belongs the well-equipped and successful expedition of H. Barth (1857-59), who was accompanied by Richardson and Overweg. Preliminary explorations of Ritchie and Lyon (1821), and Richardson, the companion of Barth, had aroused European interest in desert travel. Political and scientific motives were responsible for Barth's journey from Tripoli southward through Murzuk, from which point he and his companions crossed the desert to Air. There they stayed in the ancient city of Agades, of which little was known in Europe. The desert was crossed after the explorers had been robbed and had barely escaped with their lives; but disease proved the greatest enemy, for only Barth returned to Europe, after five years of uninterrupted exploration in the period 1850-55.

During this time Barth's command of Arabic and Hausa, combined with his assiduous recording of observations, resulted in the publication of five volumes entitled "Travels and Discoveries in North and Central Africa." His researches were linguistic, ethnological, botanical, and zoological. At Kuka, Barth met Vogel, who had been sent from Europe in charge of a relief expedition. But

Vogel himself died, and his assistant Corporal McGuire was murdered at Bilma.

F. G. Rohlfs (1875, 1881) was prepared for arduous desert journeys, which took him across the Sahara and later into Libya, by service in the French Foreign Legion, in which he enlisted in 1855. He was the second European to reach Tafilet, where he was robbed, but though abandoned as dead he revived and reached Algiers. In 1865 Rohlfs left Tripoli and journeyed through Ghadames and Murzuk to Bornu, the southern terminus of the trans-Saharan route from Tripoli. He passed through eastern Nigeria, reached the Benue, a tributary of the Niger, and followed that affluent to its junction with the main river. After ascending the Niger to Rabba, he journeyed through Ilorin to Lagos on the coast. About this time, H. Duveyrier (1864) was exploring the northern Sahara, between the Hoggar Mountains and the Fezzan, in Tripolitania.

In 1869 Gustav Nachtigal (1879) set out from Tripoli, visited Tibesti and Borku, and continued southward to Baghirmi, at the south of Lake Chad. He turned east, and after crossing the unexplored regions of Wadai and Kordofan reached Khartum in 1874. For political reasons, Nachtigal crossed the Sahara a second time to undertake a mission that resulted in the addition of Togoland and the Cameroons to the German Empire. But he did not live to realize his achievement, for death claimed him on the homeward voyage. Miss Tinné, who accompanied Nachtigal as far as Murzuk in Tripoli, continued her journey independently but was murdered in the desert.

Oscar Lenz (1878, 1884) traveled through the far western Sahara. The route chosen is of exceptional interest, and the achievement is of outstanding merit, because in recent times and perhaps even today the region is dangerous on account of banditry in the Spanish territory of Rio de Oro and in the French possession of Mauretania. Oscar Lenz reached Timbuktu, and his notes, though of a general nature, are the best we possess for the region through which he passed.

The name of Edwin von Bary is associated with exploration of the Sahara in the period 1870-80. But his route from north Africa to Air followed too closely the trail of Barth to give the distinction which the hardships merited. In common with Mungo Park, Von Bary was deprived of all his possessions, and, like Clapperton at Sokoto, Von Bary died under mysterious circumstances that suggest poisoning.

In the year 1881 Colonel Flatters and Captain Masson were killed by Tuareg, but their companion Dianous escaped. The murder was not avenged until twenty years later, when Lieutenant Cottenest defeated the Tuareg of the Hoggar Mountains, with heavy losses to the enemy and only light casualties to his own force.

The life of Charles de Foucauld (Bazin, 1923), gay liver, army officer, religious hermit, linguist, and ethnologist, is one of the most colorful lives in the history of African exploration. Early in his career De Foucauld (1888) was a cavalry officer, but he abandoned army routine for a life of exploration in Morocco in the disguise of a Jew (1883-84) and later entered the monastery of Beni Abbas to become a Trappist monk. Subsequently, he became a friend of the Tuareg of Hoggar, where he built a hermitage. In 1916 he was murdered, not by the Tuareg among whom he lived and whose language he studied so thoroughly, but by a band of Senussi from the Fezzan.

A notable achievement of France in founding her north and west African dominion was the Foureau-Lamy expedition of 1899, which consisted of three sections converging on Lake Chad from the north, west, and south. The western column under command of Captain Voulet and Lieutenant Chanoine was almost disbanded, owing to mutiny among the personnel. The Saharan or northern section crossed to Air, where opposition was encountered, and the column narrowly escaped annihilation through the treachery of Tuareg guides (Foureau, 1902). The column under Gentil advanced from the south and the three columns met at Lake Chad. There Rabeh, who had harassed the country for ten years, was defeated and killed, but not before he had taken the life of Major Lamy, the French commander (Von Oppenheim, 1902; Chevalier, 1907). A few years before this event, Colonel Monteil explored the upper and middle courses of the Niger; then he extended his journey to Lake Chad, from which he crossed the Sahara to Tripoli. This conquest of the Sahara by France followed as a natural expansion southward from Algeria, whose chief town, Algiers, had been captured in 1830. Not only has France pressed southward across the Sahara; gradually her African protectorate has extended over Tunisia and Morocco.

French conquests in west Africa began in 1637 when Captain Lambert and De Rochfort penetrated more than two hundred miles inland from the Gambia in the far west and established trading stations. But many vicissitudes followed, including loss of the Senegambian forts to the Dutch, and despite the work of André

de Brüe, French settlements in the west passed into British hands during the latter part of the eighteenth century. In 1798 the defeat of Napoleon in Egypt by the British checked French expansion in that quarter. But the persistence of French exploration and settlement on the west coast was continued intermittently until the Tuareg were defeated and Timbuktu was captured, in 1893. About this time Colonel Binger, who had been interested in west African exploration since 1887, defeated a powerful congeries of tribes known as the Mandingo. Consequently, French territory now extends without interruption from the west coast to Lake Chad and across the Sahara to the Mediterranean.

Meanwhile the British had not been idle, though their early initiative on the west coast was concerned chiefly with the founding of trading stations, in keen rivalry with the French, Dutch, and Portuguese. To the Portuguese must be given the credit of first entering the famous city of Benin in southern Nigeria, a place noted for the technique of bronze-casting, the carvings in ivory and wood, the pomp of the court, and the human sacrifices on a large scale. Sequira, a Portuguese, is said to have been the first European to enter Benin, and not until 1553, about eighty years after the Portuguese entry, did the British make contact with the Bini through the enterprise of Windham and Pinteals. Ten years later, Sir John Hawkins was engaged in the slave trade from west Africa to the West Indies and Brazil. Then followed a great expansion of commercial enterprise based largely on this inhuman traffic, in which several European nations and America competed.

Although the coastal regions of west Africa had long been a center of attraction, despite the heavy death toll, enterprise and opportunity were lacking for exploratory conquest of the far interior. But in 1795 Mungo Park (1799), a young Scottish surgeon acting for the newly formed African Association, arrived at the mouth of the Gambia with the intention of exploring the Niger from source to mouth, and while doing so he planned to visit Timbuktu at the bend of the river. After two years of peril and captivity, Park escaped from Ali of Benowm, only to be turned back from Segou on the Niger by the Sultan of that town. The explorer, robbed of all possessions and in ill-health, returned to Scotland. But in 1805 he was in west Africa again with the same quest in view, and, on this occasion, with better protection and equipment. The history of the second attempt to follow the Niger from source to mouth is one of increasing sickness,

theft by natives, mutiny among the escort of soldiers, and complete disorganization.

When Bamaku on the Niger was reached after a journey of six hundred miles from the coast, only seven of the thirty-four white men survived. In comparison with the hardships of the march, the river journey proceeded with ease, though the canoe was unwieldy and sickness was rife. The explorers continued for a thousand miles by water, fighting against great odds, and on one occasion they dispersed sixty hostile canoes. Near Busa, where the river narrows, a determined attack was made from the bank, until at last, in desperation, Park and his companions jumped to save their lives. They were drowned in the rapids. For several years, no news reached England, and even today the exact circumstances are unknown (J. Thomson, 1890; Gwynn, 1934). Peddie (1816) and Major Gray; then Dochard, two years later; and Park's son, who disbelieved the reports of his father's death; followed the course of the Niger. But all laid down their lives in the unsuccessful quest of following the river to the estuary.

Commander Clapperton (Denham, Clapperton, and Oudney, 1828), who had crossed the Sahara with Denham and Oudney in 1821, landed on the Nigerian coast four years later to continue his exploration of Nigeria in the company of Pearce, Morrison, and Richard Lander. The only survivor of this expedition from the coast to Sokoto in northwest Nigeria was Lander, who lived to solve the problem of the Niger on a later expedition. Clapperton reached Sokoto, where he died under circumstances that indicated poisoning (Lander, 1830).

R. Lander (1832), the sole survivor, returned to England and there obtained a parsimonious grant from the British Government; then again he sailed for Nigeria, where he landed with his brother John in the year 1830. The explorers set out on foot for Yauri, where dugout canoes were obtained for the voyage down the Niger to the estuary. After many perils, they passed the point where the Benue joins the Niger. Continuing south, they reached the coast at Brass, after exploring the river from the point where Mungo Park lost his life. While according credit to Richard and John Lander for their achievement, the pioneer work of Park should not be forgotten, for the two journeys of Park along the course of the Niger were one of the most dogged enterprises in the history of African exploration.

The ill-fated Niger expedition of 1841 has been described by W. Allen and T. R. H. Thomson (1848), in their narrative.

On the staff were 145 scientists, missionaries, and business men, of whom one-third fell victims to fatal attacks of malarial fever. McGregor Laird, who had led an expedition to the lower Niger in 1830, opposed the venture of 1841 and foretold disaster. The failure of this expedition discouraged further attempts to such an extent that McGregor Laird had great difficulty in carrying out his project of 1854. Yet, contrary to expectation, this expedition not only secured results of commercial importance and scientific value but returned without loss of a single member of the staff. Under command of W. B. Baikie, the *Pleiad* ascended the Niger as far as the junction of the Benue, which was explored for a distance of 250 miles. The name of Governor John Beecroft is associated with indefatigable labors in exploring the Nigerian coast and hinterland, but untimely death prevented him from assuming the leadership of the successful expedition of 1854. Major J. Duncan (1847), who survived the disastrous expedition of 1841, traveled in Dahomey and described the country, where he later lost his life.

From this time onward, the history and exploration of west Africa is concerned with the commercial and political rivalry of trading companies, to which administrative powers and spheres of influence were given by several European countries. Apathy of the British government, together with jealousy between England, France, and Germany, added to the dangers and uncertainties caused by warfare between powerful west African chiefs. But during this period of competition the work of exploration continued.

In the period from 1500 to 1900, ethnology was not systematically and intensively studied, yet many valuable ethnological notes were given among general observations. A trader named W. Bosman (1705) has left a work of great merit, in which he describes personal observations of the ceremonies and habits of the Ashanti.

The journey of Lieutenant Boyd Alexander (1907) in 1904 was of a general exploratory nature, yet he made valuable observations relating to many tribes which are not well described even today. His route followed the Niger to Lokoja, from which point he passed through the Munshi country, then hostile to strangers and only recently opened to travelers. When crossing the Bauchi plateau, he met with tribes who at the present time are unaffected by either Christianity or Mohammedanism. Boyd Alexander's record included a description of Bornu and a brief account of the Buduma, a fishing community living on the western shore of Lake Chad.

Mary Kingsley's "West African Studies" and "Travels in West Africa" show her courage in exploring unknown country in Nigeria and the Congo estuary, with only African servants as companions. Vivid description, ethnological information, and a humorous outlook have established her books as works of permanent value (Gwynn, 1932; Nathan, 1908).

Crossing of the Sahara by camel caravan has been accomplished by several explorers in modern times. Hanns Vischer (1910) traversed the desert from Tripoli to Lake Chad, and about the same time A. H. W. Haywood (1912) crossed from Timbuktu. A. Buchanan's trans-Saharan expedition of 1924 added valuable zoological material to the Rothschilds' Museum at Tring, England, and the observations on migratory birds have proved a welcome addition to ornithology (Buchanan, 1926).

Hazards and difficulties arising in part from Bedouin suspicion, and in part from topographical and climatic factors, fell to the lot of Hassanein Bey (1925), who explored Libya in 1922. He checked the map of d'Anville, 1749, and surveyed oases that had not been visited, except by the Senussi Arabs, since the time of Rohlfs (1872).

Additional references of importance in their bearing on the history and exploration of the Sahara and west Africa are given below.

North and Central Sahara.—Bourbon (1933), Bovill (1928), D. R. G. Cameron (1928), Haardt and Dubreuil (1924), Harris (1895), Kilian (1935), Mondadori (1926), Ness (1931).

Eastern Sahara (Libya).—Bagnold (1933, 1936), Ball (1927), Bermann (1934), Kádár (1934), King (1931), Newbold (1924), Newbold and Shaw (1928), Tilho (1920), Umberto (1935).

West Africa.—Migeod (1925), Utting (1931).

THE CONGO AND ZAMBEZI RIVERS

Although Portuguese exploration and settlement were continued along the lower course of the River Congo from the end of the fifteenth century, no attempt was made to explore the river to its source. Not until late in the nineteenth century was demonstration given that the Lualaba River of southeast Africa is the beginning of the Congo itself.

In the year 1816 Captain Tuckey (1818) of the British Navy, with Lieutenant Hawkey as second in command, and a complement of scientists, sailed against the current of the Congo until he reached

Yelala Falls, about 120 miles from the estuary. When I recall the slow progress of a modern steam vessel against the current, Tuckey's success seems the more remarkable. He speaks of large whirlpools that swept the sloop round despite the use of oars and sails, and his record describes a phenomenon that impresses every traveler, namely, the deep conical vortices that open here and there without warning.

At the outset, Tuckey proved himself to be not only a skilled navigator and fighter but a shrewd observer whose orders indicated a sympathetic understanding of native life. He advised his colleagues to be guarded without showing suspicion, and he pointed out that a display of possessions would lead to thefts which would make reprisals necessary. The commander ordered that presents were not to be given before the rank of the recipients had been ascertained. This rule holds good today, and a modern traveler could make no greater mistake than that of slighting a village headman. Respect for native women was one of Tuckey's maxims, and above all he enjoined his men not to interrupt native ceremonies, although the rites might be crude and offensive to Europeans. He also told his men to avoid offending native beliefs in any of the venerated objects, especially sacred trees. The narrative refers appreciatively to the work of four scientists, who, after the manner of the period, made some miscellaneous observations on African customs, vocabularies, plants, and animals. Tuckey and Hawkey, who had seen many years of naval service together, including a period as prisoners of war in France, sailed on the homeward voyage, but both died before the vessel reached home. The total loss of personnel in this expedition was heavy.

In his preface to "A Journey to Ashango-Land" (1867), Paul du Chaillu expresses the chagrin he felt when discredit was thrown on his statements respecting the Ogowe River region, north of the Congo estuary. His observations of Pygmies, whom he called Obongo dwarfs, and his notes on gorillas were received with mistrust. Du Chaillu remarks on the unfortunate position of a pioneer in unknown countries: "If he returns home with nothing new or striking to relate, he is voted a bore, and his book has no chance of being read. But if he has some wonders to unfold connected with geography, the natives, or natural history, the fate of Abyssinian Bruce too often awaits him, his narrative being held up to ridicule as a tissue of figments." H. Barth of Saharan fame doubted the statements of Du Chaillu, yet time and further observation have established the value of the records.

To know something of the biography of an explorer is to enhance the interest in his discoveries, and a study of the childhood of H. M. Stanley supports this view. Like René Caillié, he spent his early years in a charity school. He was born in Wales (1840) with the name of John Rowlands, but at the age of three years he was sent to a poorhouse, where he remained until the age of thirteen. About that time he shipped as a cabin boy to New Orleans, where a wealthy merchant adopted him but unfortunately died intestate, so that his ward received no bequest. Stanley had an adventurous life among Indians, as a miner in California, and as a soldier in the American Civil War, at the close of which he went to Crete as a correspondent for the *New York Herald*. Travel in Turkey and Asia Minor, in addition to his previous adventures, provided an ideal training for African exploration, which from the year 1869 onward placed him in the front rank of pioneers (D. Stanley, 1909).

Stanley (1878, 1891) landed at Zanzibar in 1871 and marched to Ujiji on Lake Tanganyika, where he met with Livingstone, whose fate was unknown in England. Livingstone was not lost—he was far too experienced not to know his geographical situation—but he was sick and near death. The achievements of Stanley include the following of the Lualaba from the source to its junction with the Congo, and thence in a westerly direction to the mouth of the Congo, so establishing the continuity of the two rivers. He explored lakes Albert and Albert Edward, together with the Semliki River that flows between them. Then he reconnoitered a large region of the central Congo in the interest of King Leopold of Belgium, who financed an expedition which was aided by the African International Association.

Stanley was one of the most determined and successful of African explorers, with no scruples against fighting his way, and he did so with the aid of four hundred men. In his ascent of the Congo in 1877, he had an initial force of 389 men, of whom only 174 remained at the end of the journey, and these were reduced to exhaustion.

Students who are interested in the psychology of leadership will find a field of research in the personalities and achievements of African explorers.

Among men who had a strong social and financial backing, Stanley for the Congo and Barth for the Sahara are prominent. The political and commercial achievements of Stanley surpass those of Barth because of the advantage of the former in exploring a rich country with waterways that aided commercial development. But

the greater scientific honors are due to Barth, whose books are masterpieces of accurate recording and relevant interpretation. On the contrary, Stanley's records of the Congo are often journalistic.

Some successful explorers had ample funds, government backing, and the prospect of a relief expedition. But others, of whom René Caillié is an example, set out almost penniless, with only the moral support of a few friends and their own indomitable courage.

Mungo Park was gentle and chivalrous, with a mind unable to appreciate the fact that cunning, greed, and religious intolerance cannot be matched with courtesy, frankness, and tolerance. Livingstone had a mentality similar to that of Park, and he survived for thirty years without relinquishing moral principles that regulated his contact with natives. But one must remember that, although Livingstone was hated by Arabs and sometimes tricked by native chiefs, he, unlike Park, was not usually moving in a country of hostile Mohammedan despots.

The period from 1870 to 1890 was one of concentrated effort in the opening up of the Congo region and Angola. Closely associated with exploration in Angola are the names of Capello and Ivens (1880), Monteiro (1875), Pogge (1880), and Pinto (1881). Monteiro's volumes have for many years provided the only ethnological notes on the Vasele, who inhabit rugged country in the hinterland of Novo Redondo. In the year 1930 I found the Vasele as Monteiro describes them. The men still chip all their teeth to points. They roast rats on skewers as a delicacy, and continue to live high on the hillsides (Fig. 80, b), from which they descend to the valleys to cultivate small gardens. Monteiro describes their cannibalism, for which they still have a reputation. The most recent account of exploration in Angola is by O. Jessen (1936), and in Hambly (1934a) a bibliography for Angola may be consulted.

North of the Congo estuary, Oscar Lenz (1878), the explorer of Saharan fame, made a reconnaissance of the Ogowe River, and from that point passed along the Congo and so across the continent to Tanganyika. One of the most notable names connected with the founding of the French Congo is that of Count de Brazza, who first became interested in the Ogowe region when serving as a French naval officer near that coast.

When in Gaboon in 1874, De Brazza thought that the Ogowe River might be the lower course of the Lualaba of the eastern Congo area. But this impression was corrected when De Brazza returned to Paris and learned of the discoveries of H. M. Stanley, who had proved

the Lualaba to be the upper course of the Congo. In 1880 Count de Brazza founded the Ogowe station, and Brazzaville near Stanley Pool on the main River Congo. A few years later he became Commissioner-General of this new colony of France, and when he died in 1905 his administrative career was recognized as sound, enduring, and sympathetic toward indigenous African cultures. French colonial expansion in central Africa was aided by Malamini, a man of Berber-Negro origin, who for a time effectively opposed the political schemes of H. M. Stanley on the River Congo in the year 1881. Stanley had hoped to add territory to the Congo State, but to his disappointment the French flag was flying in some coveted areas before Belgium could establish a claim. Malamini yielded only by order of France, who decided to waive some of her claims.

Lieutenant H. von Wissmann (1907) was a distinguished explorer and later an administrator of German East Africa, whose early exploration in the north of Angola was carried out in conjunction with Pogge. Von Wissmann crossed from Loanda in Angola to Zanzibar, so traversing the continent, and rather later (1886) he engaged in survey work in the Kasai region of the southwest Congo.

The decade from 1890 to 1900 brought a further extension and consolidation of French enterprise from the mouth of the Congo to Lake Chad, an achievement with which the names of Dybowski (1893), Maistre (1895), and Gentil are associated. Gentil has been mentioned above in connection with the Foureau-Lamy expedition across the Sahara. With this column Gentil united his forces for the overthrow of Rabeh, a deserter from the army of the Mahdi, who was opposing British forces in the eastern Sudan. Dybowski (1893) states that his object in traveling from the mouth of the Congo to Lake Chad was imperialistic and commercial. He was, in fact, carrying out the scheme of Crampel for a large, compact, central African territory that the French could unite with their possessions in north and west Africa.

A few years after the journey of Dybowski, General Marchand entered the French Congo at the Loango coast, explored the Congo and Ubangi rivers, then settled at Fashoda, until conflict with the British under Kitchener caused him to withdraw. Marchand explored the Sobat River, a tributary of the Nile, then traveled east to the port of Jibuti in French Somaliland. The journey across Africa reflected great credit on Marchand, since the traverse was made with only slight losses of personnel and equipment.

When studying the Congo region, the following works are of importance as sources for ethnology, history, and geography: Bentley (1900), V. L. Cameron (1877), Junker (1890-92), L'Enfant (1909), Chevalier (1907, 1908, 1910), Coquilhat (1888), Foa (1900), Humphrey (1933), H. H. Johnston (1908), O. Macleod (1912), Mecklenburg (1913), Lopez (1591), Schoeller (1901), Schweinfurth (1874, 1883), F. Stuhlmann (1894), Torday (1928b), Ihle (1929).

SOUTH AND EAST AFRICA

From the time of the Dutch settlement at the Cape of Good Hope in the year 1652, the history of South Africa has been characterized by warfare and political rivalry between these first settlers and later English pioneers. Other important factors in the development of the country are geographical exploration and intermittent warfare between colonists and hordes of Bushman, Hottentot, and Zulu tribes. Early English and Dutch observers made ethnological observations which have been translated and compiled (Schapera, 1930a, Schapera and Farrington, 1933).

Bushman and Hottentot tribes were so disintegrated before any systematic anthropological study was begun that present investigation has to rely to some extent on gleanings from the works of early explorers. In the early part of the nineteenth century (1803-1806), Lichtenstein (1811-12) made valuable observations, and W. Burchell's "Travels in the Interior of South Africa" is another work to which anthropologists and zoologists refer for information relating to the condition of South Africa in the period from 1822 to 1824. The travels of J. Campbell (1815, 1822), the researches of Andersson (1856) near Lake Ngami, and reports of J. Chapman (1868) are valuable source books for study of customs, now obsolete. Writings of R. Pöch (1910), S. Passarge (1907), and L. Schultze (1907) are of ethnological value. E. E. Mossop (1935), and H. C. Notcutt (1935) have published extracts from the works of early explorers.

The missionary labors of Robert Moffat (1842) among the Bechuana tribe continued for fifty years, until he returned to England. Moffat translated the Bible into Sechuana, a scholarly task. He also demonstrated practical ability as a teacher of carpentry, blacksmith's work, and building. The name of R. Moffat is associated with geographical research, the founding of mission stations, ethnological observations, and a determined fight against the slave trade.

The missionary work and explorations of David Livingstone were undertaken in the period from 1843 to 1873. From early boyhood, Livingstone worked in a Scottish cotton mill, but despite long hours of labor he found time for evening study, which was later continued in medicine and biology at a missionary college in England. In the year 1840, Livingstone proceeded to Kuruman mission station, about seven hundred miles north of Algoa Bay, south Africa. Four years later he married Mary Moffat, daughter of the pioneer missionary Robert Moffat, and for many years she shared the hardships of travel with her husband.

One of Livingstone's journeys led him to Lake Ngami, then west across Angola to the port Benguela, where he had the offer of a passage to England. Though sick and exhausted, Livingstone carried out his contract with his porters, whom he had promised to lead back to their home in Rhodesia. Other explorations of Livingstone covered a large field between the Rovuma River in east Africa and lakes Nyasa and Tanganyika. Livingstone reached Ujiji near the north end of Tanganyika, crossed the lake, explored the Lualaba River, and returned to Ujiji, where he was met by H. M. Stanley.

After they parted Stanley marched north, while Livingstone traveled west to Lake Bangweolo, where he arrived weakened by fever and exhausted by long marches. The men who found him dead in an attitude of prayer preserved the body and carried it to Zanzibar, whence it was transferred to England and buried in Westminster Abbey. Two of Livingstone's notable achievements were the discovery of Lake Nyasa and the exploration of the Shiré River. He was aided by John Kirk, later Sir John Kirk, who was appointed as Britain's representative in Zanzibar (Livingstone, 1858, 1866; H. Waller, 1880).

A note in Livingstone's diary is an indication of the frankness, gentleness, and disinterested effort for which he was renowned. He says, "As far as I myself am concerned, the opening of the new central country is a matter for congratulation only in so far as it opens up a prospect for the elevation of the inhabitants. . . . I have not mentioned half the favours bestowed, but I may just add that no one has cause for more abundant gratitude to his fellow-men and to his Maker than I have, and may God grant that the effect on my mind be such that I may be more humbly devoted to the service of the Author of all our mercies."

In the decade following the death of Livingstone, Emil Holub (1879, 1881), by birth a native of Bohemia, and a surgeon at the Kimberley mines, explored the country of the hostile Ba-ila in Northern Rhodesia. With his wife and a companion named Sollner, Holub ventured into the unknown districts, where Sollner was murdered by natives, while the others arrived at the Zambezi after suffering extreme privation. Holub's works describe the tribes of Northern Rhodesia and eastern Angola. As a compendium, Theal's (1907-10) three volumes dealing with the history and ethnography of south Africa are valuable though not infallible source books.

The name of V. L. Cameron (1877) is associated with his crossing of Africa from Zanzibar, an achievement which was the first east to west traverse made by an Englishman. He mapped Lake Tanganyika, explored the Lualaba River, and then proceeded westward to Benguela in Angola (Foran, 1937). His notes on tribes of eastern Angola are valuable, because even today there is a paucity of information about the Vachokwe, who from the time of Livingstone have preserved a reputation for truculence. Yet the gaps in our ethnological knowledge of the eastern border of Angola are gradually being filled (H. von Baumann, 1935; F. and W. Jaspert, 1930).

A possibility exists that the first crossing of Africa was made by early *pombeiros*, a name given by the Portuguese to leaders of caravans. But such men were concerned with trade in slaves, ivory, and copper; moreover, most of them were untutored pioneers who made no written records, and consequently their knowledge died with them. One of the most famous leaders who penetrated Africa from the east coast was José de Lacerda e Almeida, who advanced from Mozambique to the Great Lakes. But unfortunately all his records were lost when he perished in the interior in the year 1798. R. F. Burton (1873) has given an account in English of Almeida's exploration.

THE NILE AND NORTHEAST AFRICA

Exploratory activity in northeast Africa centered in discovery of the source of the Nile, and toward the end of the eighteenth century a group of talented explorers appeared; these attempted to solve a problem that had puzzled the Egyptians six thousand years before. Among the pioneers in this work were James Bruce, John Lewis Burckhardt, W. G. Browne, and Henry Salt. James Bruce (1804) traced the Blue Nile from its Abyssinian source to the junction with the White Nile. Finally he reached Assuan, but had to return to the desert for his baggage, which had been abandoned

owing to the death of all his camels. Like Du Chaillu, Bruce was offended by the incredulity with which his reports were received, but his volumes entitled, "Travels to Discover the Source of the Nile in the Years 1768-1773," have completely demonstrated the thoroughness and the accuracy of his exploration. Stimulated by the research of Bruce, W. G. Browne (1799) traveled in the Libyan Desert. He visited the oasis of Siwa, and then proceeded south to Darfur, where he remained in captivity for three years before being able to return to Egypt.

Burckhardt (1819) relied on his ability to speak Arabic, his knowledge of Koranic law, and his effective Arab disguise, for traveling in Arabia and later in the Nubian Desert east of the Nile. In the year 1815 he arrived in Cairo in a state of extreme exhaustion. He recovered partially, but succumbed two years later when planning a journey to Tripoli. Henry Salt, one-time British Consul in Egypt, explored parts of Abyssinia and the Zanzibar coast in the first decade of the nineteenth century.

Exploration of Abyssinia is connected with activities of members of the Church Missionary Society, and notable among these are Krapf and Rebmann (1860). The former tells of a severe illness in early youth and a near approach to death, at which time he resolved to devote himself to mission work. Krapf, like Livingstone, was imbued with a sincere piety that sustained him through many years of peril and exhaustion.

Krapf and Rebmann worked their way from Mombasa northward to the region of the great mountains Kilimanjaro and Kenya, in 1848. The interest aroused by the reports of these missionaries led to further exploration by R. F. Burton (1856) and Speke (1858). Burton discovered Lake Tanganyika, and Speke explored the south shore of Lake Victoria Nyanza. On this journey Burton had the misfortune to fall ill near Tanganyika; therefore, greater acclaim was given to Speke, who continued northward alone, discovered Lake Victoria Nyanza, and was the first to reach England. Under the auspices of the Royal Geographical Society, which had evolved from the African Association, Speke and Grant explored the south shore of Victoria Nyanza and traveled down the Nile.

During this return journey Speke and Grant met Sir Samuel Baker and his wife, who had explored the River Atbara, a tributary of the Nile, and were working southward in the hope of discovering the source of the White Nile. Despite the disappointment of learning that they had been forestalled by Speke and Grant, Baker

(1867) and his wife continued their journey, and acting on information given by their rivals they were able to explore Lake Albert Nyanza, of whose existence Speke and Grant had given assurance. This was in the year 1862, but for several years the region round the source of the Nile remained imperfectly explored, and even the reconnaissance of H. M. Stanley, about ten years later, left many details to be added to the cartography of the region.

From the Church Missionary Society came R. W. Felkin, 1878, who traveled from Suakin on the Red Sea to the Nile, which he followed to Uganda. The name of Joseph Thomson (1885) is associated with exploration between Lakes Nyasa and Tanganyika, then with travels farther north, where he pioneered in the Rift Valley and in the region of Lakes Naivasha and Baringo.

In Abyssinia, and along the border between that country and Kenya, valuable exploration was carried out by A. D. Smith (1897), Bottego (see Vannutelli, 1899), Stefani, Teliki (see Von Höhnelt, 1894), and Maud (1904). See also Von Heuglin (1877) and Maydon (1925). Matteucci and Massari advanced from Suakin on the coast through Abyssinia, Kordofan, Wadai, and Bornu—a difficult route owing to the hostility of Sudanese Arab tribes. From the year 1291, when the Vivaldi brothers touched the coast of Guinea, Italians contributed to the opening up of Africa. Giuseppe Sapeto founded the Italian colony of Eritrea on the shore of the Red Sea. Casati (1891) contributed two volumes describing his explorations, and ethnological observations. Antonio Cecchi (1885–86) penetrated Abyssinia, and among modern explorers the late Duke of Abruzzi is famous. A bibliography for the Italian names will be found in “*Voyageurs italiens en Afrique*,” published by the Minister of Colonies, Rome, 1931, and a similar compendium of Italian discoveries has been prepared by E. Cerulli (1933).

For supplementary reading on Abyssinia and the upper Nile region, the following books and articles are recommended. O. Baumann (1894), Cheeseman (1928), Cohen (1913, 1914), Jensen (1936), Lepsius (1853), J. Lobo (see P. Wyche, and Pinkerton’s “*Voyages and Travels*” (1808–1814), C. F. Ray (1923), Stern (1862), who describes the Falashas, and Wylde (1901).

G. Schweinfurth (1874, 1883) was primarily a botanist, who began his explorations with a journey in the northeast area of the Congo basin. He made several subsequent expeditions which gave valuable records of the Dinka, Bongo, Mittu, and other tribes of the upper Nile. With the same region, the explorations of W. Junker,

1875-90, are associated (1890-92). The name of Emin Pasha is important in the history of exploration in northeast Africa (1870-92). He was born in Russia of Jewish parents named Schnitzer. After being educated in Breslau and other towns, he acted as surgeon in the Turkish army; then later he served with General Gordon in the Sudan. Gordon was killed in the defence of Khartum against the dervish followers of the Mahdi in 1885 (B. M. Allen, 1931).

As a result of hostilities in the Sudan, Emin Pasha was completely isolated from his associates, and he refused to accompany H. M. Stanley to a place of safety. Emin Pasha suffered a long imprisonment but later entered the services of the German East African Company, after Kitchener had subdued the Mahdi's rebellion. The exploratory work of Emin Pasha has been described by Dr. Stuhlmann (1894), who persisted in exploration despite failing eyesight, only to meet his death at the hands of Arab assassins.

Although no new and astonishing geographical discoveries can be expected, much surveying and cartography remain to be done, especially in the Sahara from Mauretania to Libya. In conjunction with exploration geological surveys are essential, and better topographical tribal maps must be prepared. To keep in touch with modern exploration, the various geographical journals listed in the bibliography of periodicals should be consulted.

A new edition (1930) of H. H. Johnston's "A History of the Colonization of Africa by Alien Races" is a valuable textbook. The work contains a chronological table of all the major explorations and political events up to the year 1912. For literature bearing on history and administration after 1912 consult the following pages (672-689).

II. EUROPEAN GOVERNMENTS

THE PARTITIONING OF AFRICA

(Map 5)

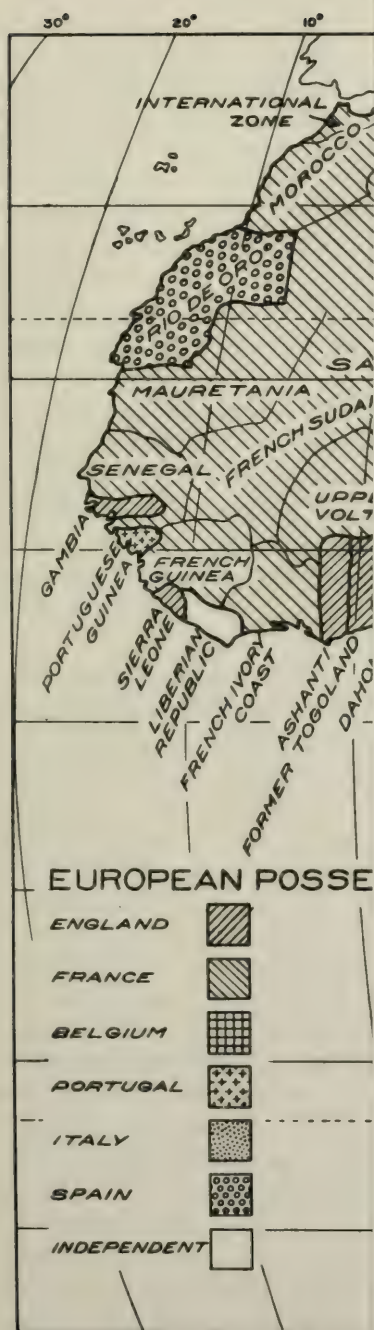
Long rivalry between European commercial and political interests has resulted in a partitioning of Africa to the mutual dissatisfaction of European powers and with injustice to Africans, since political boundaries cut across ethnological divisions. Instances of this disregard for tribal unity are to be found in the division of the Masai tribes between Kenya Colony and Tanganyika Territory, and again in the separation of the Vakwanyama in Portuguese Angola from the Ovambo of South West Africa, which is now under British mandate, though formerly under German rule.

The extent of territory administered by each European country which is represented in Africa may be seen from the accompanying map showing the areas occupied by Britain, France, Belgium, Portugal, Italy, and Spain. At the close of the World War, German territories were divided among the Allies, who now administer them by mandate from the League of Nations. To this body, in theory at any rate, the governing European powers are responsible.

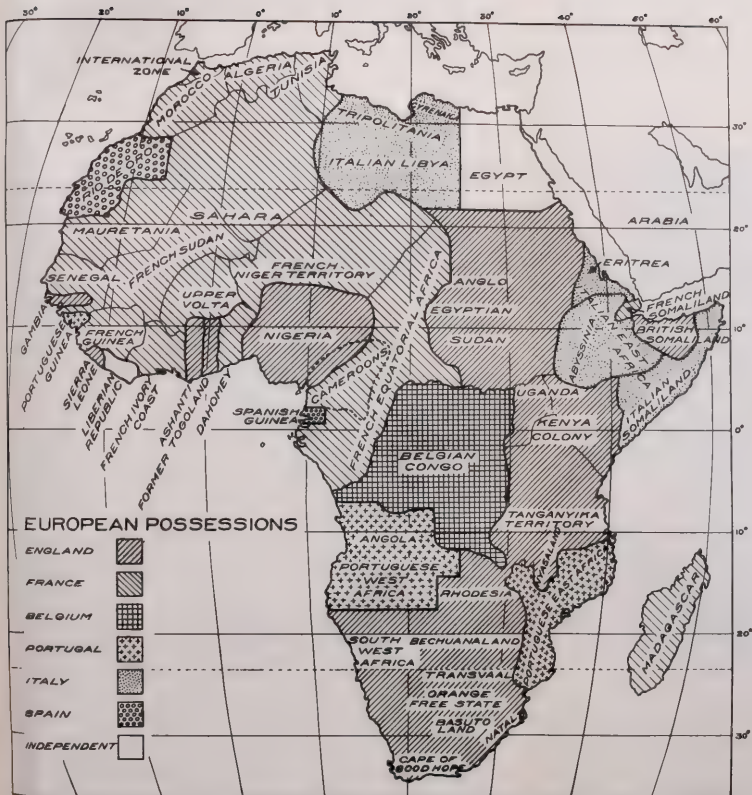
Tanganyika and South West Africa are under British mandate. The Cameroons were divided in such a way that the British added a narrow strip to Nigeria, while France received the greater portion for inclusion in her Congo territory. Togoland was divided between the British possessions of Ashanti and French Dahomey. The partitioning of Africa has been discussed by Beer (1923), and by Lucas (1922).

If a student is doing research with a political unit as the subject, the following sources are indispensable. Fitzgerald (1934) gives an exposition of the relationship between geography, history, administration, and economic problems. Topographical details of areas, climate, communications, and products for each political division are fully treated. See also bibliographies arranged according to political divisions (pp. 836-839).

The catalogues of H. M. Stationery Office, Kingsway, London, are a list of British Government publications, each dealing with a separate political division or with a specific educational or economic problem. Similar official reports are issued by the Ministries of Colonies in Paris, Rome, Brussels, and Lisbon, for French, Italian, Belgian, and Portuguese territory. A student should write to the



MAP 5



MAP 5. Approximate political boundaries of European possessions.

Scale: 1 inch = 804 miles.

foreign consulate in his own city asking for information. Handbooks of the well-indexed, encyclopedic type, with maps, are available for most political divisions. The recent handbook for Uganda (H. B. Thomas and R. Scott, 1935) is exceptionally well compiled and illustrated. History, geology, economics, natural history and all aspects of native welfare are well described. The "South and East African Year Book and Guide" (A. S. and G. G. Brown, 1935, and periodically) is indispensable as a south African background. The maps are excellent. Many useful publications are issued by Crown Agents for the Colonies, 4 Millbank, London, England.

Consultation of the bibliography of periodicals at the end of this work will indicate that a wide field of current literature is available for social and political study. The title of the periodical usually suggests the nature of the contents.

For study of a political area, a detailed map is essential. E. Stanford, Long Acre, London, issues a large catalogue of ordnance survey maps for Africa.

INDEPENDENT TERRITORY

When describing the partitioning of Africa, three territories, Egypt, Liberia, and until recently Abyssinia, require special consideration because of their independence. In 1935, Egypt was a sovereign state ruled by an Egyptian, King Fuad, who was aided by an elected body, but Britain retained rights of veto over legislation, and a British garrison guarded the Suez Canal. This canal was cut in the year 1869, and its geographical situation between the Mediterranean Sea and the Red Sea gives it commercial and strategic value. Toward the close of 1935, and as a result of protest by powerful Egyptian Nationalists, Great Britain made considerable restoration of constitutional government to Egypt. The form of independence conceded was of the type which had been suspended in the year 1923. On the death of King Fuad, Prince Faruk, a minor, succeeded, and the virtually independent country was ruled by an Egyptian Regency Council. In 1937 Faruk was crowned. Lord L. Dolobran (1933) has published a work which will bring a student almost up to date with the Egyptian situation.

The internal affairs of Liberia have received such recent attention from the League of Nations, and the past history of the country is so closely linked with American enterprise, especially through the agency of the Firestone Tire and Rubber Company, that this small republic of the west coast is of exceptional political interest. The

country is without a railway line, and the general development of mineral and other resources is backward. An unexplored field for ethnological work remains. Sibley and Westermann (1929) published a handbook which summarizes the political and educational situation.

In the year 1820 the American Colonization Society, which was a private body, sent out a company of freed Negroes from America to Liberia. These established themselves on the promontory where Monrovia now stands, purchased land from Liberian chiefs, and entered on a precarious existence marked by warfare with native Liberians and slave raiders of English, French, and Spanish nationality. General Roberts, in the year 1841, was the first man to take charge of Liberian affairs, and a few years later Liberia adopted a republican constitution which was recognized by Great Britain.

This political growth does not imply the attainment of unity and autonomy. For many years the hinterland of Liberia remained unexplored and unaffected by political movements that concerned only the coastal region. Even today no sense of general cooperation exists, and a pressing problem before the League of Nations has been the unfair exploitation of the hinterland chiefs and their subjects by the more sophisticated Negro politicians of the coast.

In the year 1926 the Firestone Tire and Rubber Company obtained a concession of a million acres on a lease of ninety-nine years. But recent events affecting the economic outlook of the world have retarded the commercial, and perhaps the social, benefits that might have resulted from this enterprise. Liberian problems were summarized by Christy (1931a, b), Dyke (1935), and J. C. Young (1934).

In view of recent Italian conquests, information on Abyssinia, which was independent for centuries, must now be included with notes on Italian possessions.

BRITAIN

A helpful introduction to the study of British possessions in Africa has been published by A. W. Pimm (1934), who makes a general survey. Geographically, a convenient starting point for the study of British territory is the colony of Sierra Leone on the west coast, which, with Gambia, a narrow strip of land bordering a river of that name, has historical connections with Britain going back to the middle of the eighteenth century. Following a period of administration and development by trading companies, government rule was established about the close of that century.

The name of the largest town, Freetown, recalls the use of the colony as a home for freed slaves in the early part of the nineteenth

century. From this busy seaport, a narrow gauge railway line extends a distance of 227 miles to Pendembu, with a branch more than a hundred miles in length. Many motorable roads exist. The colony has an area of 30,000 square miles and a population of about one and one-half millions. Palm kernels and kola nuts are valuable exports.

Experimental work on plantations will perhaps overcome the disadvantage arising from wasteful methods of obtaining oil from wild palms. At present the commodity is inferior to that of Sumatra and is therefore at a disadvantage in the American market. Of the goods consumed in Sierra Leone, 62 per cent is obtained from the United Kingdom, and a similar value of products is exported to that country, with slight fluctuations in the balance of trade from year to year.

Farther east, and on the west coast, are the Gold Coast (T. S. Thomas, 1929; W. E. Ward, 1935), Ashanti, and the Northern Territories, situated between two French possessions—the Ivory Coast and Dahomey. From Accra a railway line about a hundred miles long extends northward to Kumasi, which is connected by rail with the seaport of Sekondi. Important among the exports are palm oil, copra, rubber, cocoa, sisal hemp, mangoes, bananas, hides, rice, tapioca, and timber. The chief minerals are manganese, gold, bauxite and graphite, which are yet undeveloped. H. O. Newland (1922) compiled a handbook of economic and general information relating to British west African possessions. Byrne (1929) has described trade and transport.

The largest and most important British territory in west Africa is Nigeria, having an area of 256,000 square miles. It is entirely surrounded by French territory except for the six hundred miles of Atlantic seaboard. The chief rivers are the Niger in the west and its tributary, the Benue, which serve as a commercial highway for the entire southeastern area. When traveling northward from the coast, a broad area of dense forest is crossed, but this gradually becomes sparse, until open parkland, semi-desert, and true desert are reached. Hambly (1935a) gave a general account of the history and ethnology of Nigeria. Reference should be made to the *Nigeria Handbook* (Government Printing Press, Lagos).

In addition to mineral wealth, which includes tin, silver, lead, iron, and coal, the vegetable products—palm oil, shea butter, peanuts, cocoa, kola nuts, and cotton—are important. Railway systems are well developed in western Nigeria, while the Niger and its tributary,

the Benue, are valuable supplementary routes. Thousands of miles of motorable roads exist. Some of these highways are in use all the year, but others are closed for periods during the wet season from May to October, and later, in places where floods have caused damage.

From Lagos and Port Harcourt, main railway lines extend to Kano, nearly eight hundred miles from the coast, and to Jos, an important town in the tin-mining region of the Bauchi plateau. In the wet season, steamers ply the Benue from Lokoja, at the junction of the Benue and the Niger, to Yola, in the far east of Nigeria. In Nigeria are two of the largest bridges in Africa, one across the Niger at Jebba, and the other across the Benue at Makurdi. The story of Nigeria has been told by H. Clifford (1924). The history has been surveyed by Mockler-Ferryman (1902), and by Lady F. L. Lugard (1905). M. Perham (1936b) has described administration.

Sir Robert Williams (1933), founder of the Benguela Railway Company, first came to Africa in 1881 as a mining engineer. He was closely associated with Cecil Rhodes, who died in 1902 after spending many years in organizing and developing railways and mines in south Africa. In the year 1929 Sir Robert Williams' scheme of a transcontinental railway from Benguela in Angola, through the Belgian Congo and Rhodesia, to Portuguese East Africa, was completed. But the railway line from Cairo to Cape Town is not yet finished. South Africa has, however, a network of railways, which are connected with the trans-African line from Benguela to Beira. The system contains several notable engineering feats, including the bridging of the Zambezi near Victoria Falls. Millin's (1933) biography of Cecil Rhodes includes a large bibliography and a clear summary of this period of British expansion. By the same author (1936) is an important historical work dealing with the career of General Smuts.

From Cape Town a main railway line extends northeast to the junction of De Aar, and from that town northward to Windhoek, thence to Grootfontein, with lateral branches to the west coast ports of Lüderitz Bay and Swakopmund. The Transvaal, Orange Free State, and Durban have adequate railway communication which connects the main towns of South Africa with Bukuma and Elisabethville in the Belgian Congo. Some transport problems have been discussed by P. Johnson (1933); and Smuts (1930a) with other authors has published a pictorial account of railway expansion in south Africa.

The British dominions of south and east Africa are connected with England by a regular air service from London to Cape Town. This service is part of an Imperial Airways' scheme fostered by Sir Sefton Brancker. A description of air routes, with map, has been published by H. Burchell (1933).

Politically, the Union of South Africa includes Cape Colony, Natal, the Transvaal, the Orange Free State, and the mandated territory of South West Africa. Pietermaritzburg is the capital of Natal. Pretoria is the administrative center of the Transvaal, and Johannesburg is an important mining town concerned with the production of gold and diamonds. Mining, a complete survey of which has been made by P. Duncan (1936), is intimately connected with problems of native welfare.

Swaziland, which is not part of the Union of South Africa, is ruled by a native chief under the veto of a resident British Commissioner. Basutoland is a protectorate governed by a High Commissioner who represents the British Crown. Bechuanaland is also a protectorate. An excellent account of the economic geography of Swaziland has been published by Doveton (1936). L. Barnes (1933) has described the difficulties of administration in Bechuanaland. The country was unable to balance the budget and was faced with a heavy deficit. Foot and mouth disease was preventing export of cattle. Migration of laborers was disrupting indigenous cultures and social controls. Disease was widespread, and hospital accommodation was inadequate. The need for extended education is urgent. A scheme for developing adequate supplies of water is imperative.

Southern Rhodesia and Northern Rhodesia are two valuable tracts on the British route from the Cape to Cairo. The former, which is now a self-governing colony, is part of the high plateau of south Africa which rises to elevations of three thousand, and even five thousand feet. Consequently, tropical heat is modified and large areas are suitable for settlement by white people, a fact which raises certain social and political problems.

Southern Rhodesia has rich pastoral country from which herds of cattle find a ready market in the towns, and still greater development of the country is to be expected with lateral extension of railway lines from Salisbury and Bulawayo. Northern Rhodesia is a country of grasslands, and forests of varying density, and though the tsetse fly, the carrier of sleeping sickness to human beings and devastating disease to cattle, is present, herds are reared in the highlands. Mining is important, and the center named Broken

Hill, where lead and zinc are obtained, is on the main railway line from the Cape to Elisabethville in the south of the Belgian Congo. Standing (1935) has written a history of the Rhodesias, with maps and illustrations.

The British regions described have abundant mineral, agricultural, and pastoral wealth. Local products vary considerably, but among the minerals, gold, copper, and diamonds are the most valuable. The gold mines of Witwatersrand (The White Water's Ridge) produce a third of the world's supply of this mineral. Wine, fruits, cereals, tobacco, ostrich feathers, mohair, and hides are important, while the coal supply is sufficient for internal needs, and a surplus is exported from Durban eastward along the coast.

Communication by river in south Africa is not so important as one might at first glance suppose, owing to rapids, the drying of affluents, and the formation of gorges that hinder transport. The Limpopo, which crosses Portuguese East Africa to the Indian Ocean, forms the boundary between Southern Rhodesia and the Transvaal. The Orange River, with its chief tributary, the Vaal, rises in the Drakenberg Mountains. The Molopo dries up in the rainless season. The course of the Zambezi is interrupted by the Victoria Falls, where the river has cut a deep gorge forty miles long; at a place where the waters are a mile wide the river plunges 360 feet.

Nyasaland is a desirable strip of territory along the west side of Lake Nyasa. The lake is drained by the Shiré River, which flows south to Port Herald, a town on the railway line from Blantyre to the Portuguese port of Beira. Settlers occupy highlands near the Shiré River, and the wealth of Nyasaland includes cattle, rubber, cotton, coffee, tobacco, maize, and millet.

For a general survey of British policy, history, and economic development in south Africa several excellent textbooks are available.

I. L. Evans (1934) gives an account of the history, problems, and legislation affecting Negro and White populations in the Union of South Africa, the High Commission Territories of Basutoland, Bechuanaland, and Swaziland, and also in Southern Rhodesia and in South West Africa.

E. A. Walker (1934) has written a history of south Africa, and Kennedy and Schlosberg (1935) have examined "The Law and Custom of the South African Constitution." A short article on "The Constitutional Position of the South African Protectorates" by C. Tredgold is a useful introduction to the larger work of Kennedy and Schlosberg.

Tanganyika Territory, formerly German East Africa but now under British mandate, has tropical coastal plains and a higher hinterland, whose productiveness was greatly improved by German research and industry. Agricultural products are coconuts, rubber, cocoa, sugar, tea, coffee, and sisal. Sisal was introduced from Central America by German planters about thirty years ago, because the leaf fiber is valuable for making rope and sacking.

The main railway line extends across Tanganyika from Dar-es-Salam to Lake Tanganyika, a distance of seven hundred miles. The Zanzibar Protectorate imports large quantities of cotton cloth and petroleum, while the exports of importance include rice, ivory, and cloves.

North of Tanganyika Territory is Kenya Colony (British East Africa), of which Mombasa is the chief port and Nairobi the principal town, now greatly modernized. The main railway line is laid from Mombasa through Nairobi to Port Florence on Lake Victoria Nyanza. About a hundred miles inland from Mombasa, a branch line has been constructed to Moshi in Tanganyika Territory, and from that point to the coast opposite Zanzibar.

Although Kenya Colony is close to the equator, the tropical heat is so modified by elevation of the land that the country is suitable for settlement by Europeans. The entry of Indian traders has given rise to a problem involving the interests of white men, Bantu Negroes, pastoral Hamites, and Indian traders. The chief economic wealth consists of copra (the dried tissue from coconuts) hides, grain, oil-seeds, sisal, and ivory.

Lord Lugard's (1893) comprehensive work on the growth of the east African empire is historically important, and of recent problems he has written (1926) under the title of "The Dual Mandate in British Tropical Africa." A more recent contribution (1936) is a discussion of the political rivalry of the British and other European powers. D. J. Richter's work (1934) on "Tanganyika and Its Future" is a useful text; Gillman (1936) has prepared a map of population distribution in Tanganyika, and in conjunction with this R. C. Jerrard's list of tribes in that political area should be consulted. The bibliography of periodicals gives the titles of several journals which keep a reader in touch with current events in east Africa. W. H. Ingrams' (1931) work deals with the history of Zanzibar and the social condition of the population. N. M. Leys (1924) has produced a brief general account of Kenya, and Speller (1931) has written on land policy and economic development.

North of Kenya is situated Uganda, bordering the shore of Lake Victoria Nyanza, and still farther north the Anglo-Egyptian Sudan. After a tragic period during which the population of the Sudan was harried and enslaved by the Mahdi (B. M. Allen, 1931), a slow return of prosperity and settlement followed Kitchener's defeat of the dervishes at the battle of Omdurman in 1898 (R. A. Bermann, 1931). The Anglo-Egyptian Sudan is a portion of the belt of grassland and semidesert that extends across Africa from Abyssinia to the Atlantic Ocean. The products of the Sudan are gum from desert hardwoods, a commodity for which the province of Kordofan is particularly noted, and cotton, millet, wheat, maize, beans, dates, shea butter, gold, and ivory.

A railway line from Alexandria on the Mediterranean Sea passes through Cairo and south to Assuan, where the first cataract is situated. A journey up the White Nile from Assuan brings the traveler to Wadi Halfa, on the border between Egypt and the Anglo-Egyptian Sudan. The line then continues across the Nubian Desert in the great bend of the Nile, and from that point to Khartum at the junction of the White Nile and the Blue Nile.

From Khartum the railway proceeds southward through rich cotton fields to Gebel Moya (Hill of Water) between the White and the Blue Nile. Turning west at this small station, the line continues to the terminus at El Obeid after crossing a fine bridge at Kosti. To El Obeid come camel caravans from Kordofan and Darfur. Port Sudan, a town on the Red Sea, is of great commercial importance, and from this seaport railway lines extend to Kassala on the border of Italian Eritrea, and to Atbara on the White Nile. The latter line passes through rugged desert country inhabited by the Hadendoa (Fig. 37, *a*) and kindred Hamitic tribes. Count Gleichen (1905) edited two volumes which are a compendium of information on the Sudan, and the reports of the Wellcome Laboratories, Gordon College, Khartum, are valuable sources. Crabités (1935) has described the conquest of the Sudan, and MacMichael (1934) has published a general history. Logan's (1931) article deals with the Anglo-Egyptian Sudan as a problem in international relations.

British Somaliland, on the border of the Red Sea, is torrid country of semi-desert type, but important from a strategic point of view because of its situation near the town of Aden at the narrow southern entrance to the Red Sea. The chief port of British Somaliland is Berbera. For observations on British Somaliland, F. L. James (1888), Swayne (1895), Kittermaster (1932), Nesbitt (1934), and

J. Parkinson (1936), should be consulted, but detailed information on this region is meager.

FRANCE

With the exception of French Somaliland, which has a strong strategic position at the southern end of the Red Sea, France owns no territory on the east side of the continent, but French dominions are extensive in north, west, and central Africa, as the map of political divisions indicates. French colonization has been so directed as to give continuity of dominion, even though the policy involves administration of two-thirds of the Sahara Desert, which is mainly a barren and uninhabited region.

In north Africa, French rule has improved the social and economic outlook in Algeria since the conquest of 1834, while more recent enterprise has established French protectorates over Tunisia and the greater part of Morocco. Railways and motor roads have been developed, so aiding commerce and assisting a lucrative tourist traffic. From Tunisia phosphates and olive oil are valuable exports, and Morocco contains unexploited mineral wealth. Hides, barley, wheat, maize, dates, cork, alfalfa grass, and fruits are typical products of the subtropical regions of north Africa.

In Algeria, a railway extends as far south as Tuggurt, where the trans-Saharan caravan journey begins. Experiments with Citroën cars used by Haardt and Dubreuil (1927), and tests with six-wheeled Renault cars, first proved the feasibility of crossing the desert with specially constructed automobiles; then later, after the easiest route was chosen, less specialized automobiles were used.

For details of modern motor transport in the Sahara, with map, see editorial notes in *L'AF*, vol. 36, 1936, pp. 654-655; and "Renseignements coloniaux," which is a supplement to this volume of *L'AF*.

Crossing the Sahara by railway, a project first suggested by M. Duponchel in 1879, presents many problems relating to engineering, economics, and military strategy. Millions of francs have been spent in preliminary investigations, and committees have reported on the feasibility of the scheme. These minutes have been published (*De Warren, L'AF*, vol. 37, 1927, pp. 221-223) and according to the judgment of select committees the railway scheme is desirable, both commercially and politically. The report of the council calls attention to a supremacy of German man-power, which might necessitate the bringing of French colonial troops to Europe, and if this were done the transports would be menaced by German submarines as they were during the World War. This danger could

be avoided by conveying west African colonial troops across the Sahara by rail. Moreover, the report emphasizes the desirability of linking north Africa with the western Sudan, Lake Chad, and the Congo basin, so coordinating the various possessions of France by a single system of railways.

Economically, the scheme appears to be justified. More extensive cultivation of rice on the well-watered banks of the Niger would be encouraged; so also would the production of maize and wheat. Manioc, from which tapioca is made, mucilage, and industrial alcohol distilled from grain, are mentioned as commercial possibilities which are now handicapped by the absence of an outlet by rail.

The report states that France obtains a relatively small proportion of her cotton supply from her west African possessions. The bulk of this material is now imported from Egypt, India, and the United States of America, so making French indebtedness greater than would be necessary if a railway system were developed in north and west Africa. Iron is reported to be abundant in French West Africa, and prospectors entertain a hope of obtaining more gold from the mountains of the Sudan.

Apparently, technical difficulties in constructing a railway across the Sahara are not so great as some experts have assumed, because the dunes of soft sand occupy only one-third of the route, and tracks could be laid across the stony desert. The expense would be great, but construction of the railroad would at once raise the value of land in the Sudan. Those who are concerned with the welfare of African natives wish to know what measures are to be taken to protect native rights during the gamble for territory by mercantile companies.

The argument that water supply for locomotives would exhaust desert wells is countered by a statement that the power for engines would be supplied by internal combustion of vegetable oils made from palm-nut pulp.

Administration and development of Morocco as a protectorate under the direction of Marshal Lyautey have shown the efficiency of French colonial policy. When France assumed control of Moroccan affairs about the year 1912, with the reservation of Tangier as a neutral zone, the country was in a backward and chaotic condition. Moorish troops mutinied, massacred French officers, and attacked the town of Fez, but finally the rebels were subdued, though desultory warfare and intermittent revolts continue in outlying regions.

France has spent large sums of money on medical service, a statement that is attested by the erection of a Pasteur Institute at Rabat, an anti-syphilitic institute at Fez, and a medical clinic for ophthalmic diseases at Casablanca. Veterinary science, agriculture, town lighting, education, and inspection of foods have all been brought under the control of scientific bureaux.

In west Africa, the principal French possessions are Senegal, French Guinea, the Ivory Coast, and Dahomey, all of which are in the littoral forest zone, which has a wealth of timber and vegetable products. In French Guinea, a railway has been constructed from Konakry for a distance of four hundred miles to the upper reaches of the Niger, which is also tapped by a railway from Dakar in Senegal to Bamako, a distance of seven hundred miles. These lines, together with the River Niger, maintain communication with Timbuktu, which is situated at the southern end of trans-Saharan routes from the Mediterranean Sea.

The Ivory Coast has a railway from Bingerville inland to Bouake, and in Dahomey are lines from Kotonu to Abomey and Parakou, and from the port of Lome to Atakpane. The former of these parallel lines from the coast has a length of two hundred miles, while the latter extends more than half that distance; therefore, inland products have ready access to the sea. The Governor-General for the region of French West Africa resides at Dakar, from which administrative center Lieutenant-Governors are sent to take charge of the principal provinces: namely, Mauretania, the French Sudan, the Upper Volta, Gabun, (Gaboon) Cameroons, Middle Congo, Ubangi Shari, and Chad and French Niger Territory. French Equatorial Africa includes Colony, which occupy an enormous tract of country between the southern Sahara and the River Congo.

For a general history of French colonial policy, S. H. Roberts (1929) should be consulted. G. Bruel (1935) has published a comprehensive work dealing with French Equatorial Africa. The book is well illustrated and is furnished with six maps. A brief article by R. Montagne (1934) deals with the political situation in north Africa. For history and recent administration by the French in west Africa, Pelleray (1923) and J. L. Monod (1926) are serviceable. Chazelas (1931) discusses the political situation in French mandated territory. See also Mumford (1936). "*L'Afrique Française*" is a most valuable periodical for keeping in touch with French, Belgian, and Italian administration in Africa.

BELGIUM

The Belgian Congo occupies a tropical forest region of about a million square miles; that is, approximately one-third the size of the United States of America. Communication by the River Congo and its many tributaries is an indispensable aid to exploitation of the vast resources of vegetable and mineral wealth. The southern portion of the Belgian Congo is served by the transcontinental line, starting from Lobito Bay in Angola. The line extends across Angola to Dilolo in Belgian territory, and from that town serves the southern Belgian Congo as far as Elisabethville, which is in the copper-producing district of Katanga. The southern Congo region is famous for mineral earths from which radium is extracted. In addition to minerals and ivory there are forest products—rubber, palm oil, palm kernels, copal, and timber—while in the future the production of tobacco, cotton, and cocoa will be further developed. The founding of the Congo Free State is described by Stanley (1885) and by Hinde (1897). Warthin (1928) has given a brief account of transportation developments.

PORTUGAL

Portuguese possessions include a small area on the extreme west coast, situated between French Guinea and the British possession of Gambia; but larger and more important than Portuguese Guinea are the colonies of Angola (Portuguese West Africa) and Portuguese East Africa.

The north of Angola is topographically part of the southern Congo region and resembles that area in temperature, humidity, and the growth of dense timber. Central Angola is occupied by rugged mountains and high plateaus which arrest moisture from the prevailing northeast winds and, in addition, modify tropical heat so that cultivation of maize and beans is possible on a large scale. The coast region is extremely dry, and so also are parts of the south and east. But in the south, water is stored in deep wells, and cattle-raising by the Vakwanyama is a principal industry.

In central Angola, roads are excellent, but in the far east the tracks are deeply rutted; troublesome sand hills are encountered, and weak wooden bridges cause many delays. In 1929 I thought that the development of Angola was retarded by excessive import and export duties, high taxation of producers, and the preferential tariff given to goods imported in Portuguese vessels. The abandoned homes of Boer farmers attest the inability of industrious settlers to develop the land under existing laws.

Diamond mines of the northeast are of great value, while sisal, coffee, and tobacco are grown and exported. Prospecting for oil is in progress, but a journey of five thousand miles in Angola left the impression that exploitation of resources has only begun. In addition to the transcontinental line from Lobito Bay and Benguela to Portuguese East Africa, two short lines exist. One of these extends from Loanda on the coast to Malange, which is situated in a coffee-producing area, while the other runs inland from Mossamedes to Lubango, in the Huila district. Here pastoral pursuits prevail, under the auspices of a well-equipped research station at Umpata.

In Portuguese East Africa, low coastal plains gradually give place to healthier inland plateaus near Lake Nyasa. Mozambique exports rubber, coffee, and ivory, while other important products are coconuts, sisal, sugar, and mangrove bark for tanning. The importance of Beira as a terminus for railways of the South African system and the transcontinental line is unequaled, for the town has direct railway connections with Salisbury in Southern Rhodesia and Blantyre in Nyasaland. Lourenço Marques is a notable seaport in the south of the colony, across which a line extends to form a link with the South African transport system.

For general information on the Portuguese colonies, the *Boletim da Agencia Geral das Colónias*, Rua da Prata, 34, Lisbon, is of service. This compendium is in Portuguese. The Lourenço Marques Directory is in English. T. A. Barns (1928) gives much miscellaneous information about Angola, and Dias (1934) has given a brief account of the policies behind Portuguese administration at the present day. Hambly (1931b) has written a travel book on Angola; the reading is light but informative. For further information on Angola, see under "Exploration," pp. 652, 664.

ITALY

Before the conquest of Abyssinia, Italy administered only a large area of barren territory. At the close of the World War, Italy received some concessions at the expense of the Turks, but the hinterland of Cyrenaica, Tripolitania, and Libya is mainly desert, relieved by a few oases. Italy has two primary needs: facilities for emigration, and a supply of raw materials from her own dominions. Italy is only one-half the size of France, but the Italian population, 42,000,000, is slightly greater than that of France, and much of the surface of Italy is unproductive land.

The agricultural department of Tripolitania is surmounting difficulties of soil, aridity, and shifting sands, while sources of water are being tapped. But absorption of Italians as settlers will always be too small to relieve the congestion at home; neither can settlement in Libya solve the difficulty of growing raw materials.

A camel caravan trade goes on between Tripoli and Benghazi and the interior; this commerce the Italians wish to strengthen by making a territorial extension in the direction of Lake Chad. French and Italian interests clash, not only in the Tibesti region of the east-central Sahara, but also in Tunisia, which is under French protection, though the Bey of Tunisia is still a sovereign. France urges the nationalization of Italians in Tunisia, and her policy discriminates against those who do not comply. On the other hand, Italy claims that her subjects in French dominions should suffer no educational or other disabilities. But an agreement between France and Italy, 1934, is likely to establish a better understanding of their respective rights and policies. Italy has received territorial concessions on the borders of Libya and Eritrea, and Italians in Tunisia are to maintain their own nationality for thirty years if they desire to do so.

On the coast of the Red Sea, Italy owns Eritrea, a narrow strip of territory seven hundred miles long. A large part of the area is salt desert or sparse bush, yet pasturage exists, and a recent suggestion favors a greater development of coffee plantations, whose product would have a market in Italy. A railway 150 miles long connects Massawa on the Red Sea with Asmara in the interior. The colony is of strategic importance because of its geographical situation near the narrow strait of Bab-el-Mandeb, which leads from the Indian Ocean to the Red Sea. The possession tends to preserve a balance of power in favor of Italy against the adjacent territories of France and Britain.

The long coast belt of Italian Somaliland extends along the eastern side of the promontory known as the Horn of Africa. The country is desert, semi-desert, and scrub land, relieved by higher areas in which maize can be grown. Mucilage from hard desert woods is a valuable commodity, which is exported for the manufacture of varnishes, while hides and ostrich feathers are the chief animal products, L. Venieri (1935, pp. 5-58).

The troubled history of Abyssinia has previously been mentioned, and in this connection the main factors to remember are the early introduction of Christianity in the fourth century, the proselytizing

and exploratory work of Portuguese missions, and the invasion of Abyssinia by Mohammedanism. The political intrigues of Britain, France, and Italy, who have all coveted an interest in Abyssinia, are important factors in the political life and development of the country. For a time, Abyssinian independence seemed to be assured by the defeat of the Italians at Adowa in 1896, but even so, the development of the country was retarded by lack of a seaport. Abyssinia was shut off from the Red Sea by three coastal territories, Italian Eritrea, French and British Somaliland. But in 1935 Italy began a war of conquest by invading Abyssinia, an act which ended with the exile of the Abyssinian ruler Ras Tafari and caused considerable political turmoil in Europe.

The word "Abyssinian" has no precise ethnological meaning, since a native of the country might be a Galla, a mixed Negro type, an Arab, or a Jew, while linguistically there is no uniformity of speech, though Hamitic and Semitic languages prevail. Abyssinia is often referred to as a Christian kingdom, but this is misleading, since a large part of the population is Mohammedan and some tribes retain their own religious background. To read of the court of Ras Tafari, and to see motion pictures of the railway line from Addis Ababa to Jibuti leaves a false impression of the general development of Abyssinia.

As a whole, the country is undeveloped, though mineral wealth exists, while cotton, coffee, and cereals are cultivated. Pastoral pursuits are concerned with rearing and pasturing horses, sheep, goats, and cattle. In the arid stretches of country, camels are used for transport into the Sudan and British East Africa. Slave-raiding still takes place, and slaves are brought from the Sudan to the Red Sea to be shipped into Arabia. In the rural areas feuds are common, and the uncertainty of boundaries has led to disputes concerning grazing rights on the borders between Abyssinia and contiguous territory belonging to Britain.

A valuable general account of Italian expansion in Africa has been prepared by Bovill (1933b), and MacCreagh (1935) has described "The Last of Free Africa." Varley's (1936b) "Bibliography of Italian Colonization" contains a section on Abyssinia. Problems of Italian government in Abyssinia have been briefly outlined by Bouleminne (1935). Abraham and Villari (1935) presented arguments for and against Italian expansion. A. H. M. Jones and E. Monroe (1935) have published a work summarizing the whole history of Abyssinia. C. H. Walker's (1933) account of "The

Abyssinian at Home," is more technical than the title would imply. He gives an account of Abyssinian Christianity in relation to the family, the social status of women, education, religious ritual and magic, and the administration of law. For general description of the country, students will enjoy Fuertes and Osgood (1936), who give an account of the Field Museum-Chicago Daily News Abyssinian Expedition of 1926. For descriptions of Italian rule in north Africa, De Agostini (1917, 1923), Mondadori (1926), Minutelli (1912), and Despois (1935), are useful. The work of Despois describes problems and methods of Italian rule in Libya.

SPAIN

The arid territory owned by Spain lies on the northwest coast and its hinterland. Geographically, the Rio de Oro is part of the Sahara Desert and is, therefore, sparsely populated by an itinerant and restive population. Near the west coast, Spain holds the productive islands of Fernando Po and Annobon, in the Gulf of Guinea. On the mainland, just north of the equator, Spain administers a very small territory known as Spanish Guinea, which is surrounded on three sides by French territory and is bounded on the west by the Atlantic seaboard. Morocco, formerly Spanish, is a French Protectorate by treaty signed in 1912 with Moulay Hafid, the Sultan of that time. Tangier was recognized as an international zone in 1923, with amendments admitting Italian rights in 1928. In connection with Moroccan affairs, Segonzac (1934) and Simon (1934) should be consulted for an account of the life of Marshal Lyautey and his gradual pacification of Morocco by French administration.

EFFECTS OF EUROPEAN INTRUSION

During the European development of Africa, Negro tribes were depleted by the slave trade, and later native populations have been pressed into European service as rubber gatherers, miners, and laborers on engineering works. Moreover, a rapid extermination of animal life has been in progress, but of late years the appointment of game wardens and the establishment of national parks as game sanctuaries have arrested this destruction by ivory traders and so-called sportsmen. The establishment of reservations, and the appointment of game wardens such as those of Kivu in the eastern Belgian Congo, and of Kruger Park in south Africa, will preserve some of the most interesting forms of life.

The foregoing account of exploration, the partitioning of Africa, and the development of natural resources, serves as an introduction to a series of social problems which are not mere ethical abstractions. The history of contacts between Europeans and Africans has shown that both suppression by violence and a laissez-faire policy in politics are dangerous. Clearly, the harmonious development of Africa depends on rational schemes relating to health, labor, education, and the political rights of the African population.

III. WELFARE OF AFRICANS

Study of the history and ethnology of Africa has shown the existence of different peoples, languages, and modes of life. Following this inquiry, an outline of exploration, annexation, and economic development by Europeans explained the nature of the impact of a foreign culture on African tribes.

The essentials of the controversy respecting treatment of Africans are focused upon problems of native health and population, the type of education that should be given, and the extent to which native institutions should be allowed to function. Laws regulating the employment of Africans by Europeans, ownership of land, and the ability of Africans to participate in government are also basic problems.

The complex facts of history and ethnology make clear that many abstruse problems of administration are unavoidable, and, in addition to this, European powers are not agreed respecting the treatment that should be given to Africans; England, France, Portugal, and Italy have different views and policies. Moreover, the statesmen of any one European country are not unanimous respecting administrative measures affecting the education and political rights of Africans. Mair (1936a) has given a clear account of the differences in national policies.

HEALTH AND POPULATION

If the governing powers decided on a policy which ignored the rights of Africans, the native problem might become a negligible factor. That this idea is not wholly fanciful is proved by the history of the aborigines of Australia, the Tasmanians, the Maoris of New Zealand, and the North American Indians. European intruders had to fight for their own existence; and sense of obligation, which was usually expressed by creation of reservations for natives, came too late to preserve the indigenous populations and their customs. Therefore, we see today effete samples of former tribes and cultures, which provide entertainment for tourists and a safe field of research for ethnologists. There is, however, a recent increase in numbers among the Maori and a few North American tribes.

MORTALITY AND MORBIDITY

Is it possible that suppression and elimination will reduce Africans to a position of social and political impotence? In South Africa, Bushmen and Hottentots have declined in numbers as a

result of European contacts, and warfare with Germany reduced the Herero to a fragment of their former strength. G. St. J. O. Browne (1925) has written on the "Vanishing Tribes of Kenya." The British have waged destructive wars against the Zulu and the Masai, and in the year 1931 Italian forces were bombing Senussi Arabs from the Libyan oases. Yet these processes have been local, and European administration has still to consider a vigorous population of Negroes, Arabs, Berbers, and Hamiticized Negroes, many of whom readily accept many aspects of European culture.

P. Ryckmans (1933) states that the demography of central Africa is little known, and opinions respecting the future of the natives are subjective and conjectural. This statement is true for the greater part of Africa, since reliable statistics of births and deaths are the exception, and for this reason demography relates chiefly to native communities that have been under European control for long periods. Ethnologists wish to know the death rate at birth and at all ages for both males and females. What is the incidence of male and female births in different tribes? How does polygyny affect the fecundity of a tribe?

Mortality, especially between the ages of three years and puberty, is high, and before prophylactic measures were adopted the ravages of smallpox were severe. In some areas, populations were reduced by epidemics of influenza, and, in addition to these factors, unjust labor laws have in certain regions broken up family life and swept aside native institutions, so contributing to a decline of population despite a high birth rate.

It would be erroneous to suppose that African chiefs have made no attempt at a census, quite apart from European influence. Leaders of military organizations, such as those of the Zulu and the Masai, knew well the numerical strength of their standing armies and reserves. In Dahomey, the king had a method of keeping vital statistics by dropping pebbles in baskets (M. J. Herskovits, 1932c). But the methods employed and the data preserved by tradition are of little use in modern statistical study.

Some data relating to demography are given by L. W. G. Malcolm (1924), who examines statistics for certain west African, east African, and southern Bantu tribes. He states that "an examination of the figures shows that so far as these tribes are concerned there is a low degree of masculinity in the majority of cases. But the preponderance of females over males at maturity may be due to artificial causes." The normal sex ratio has been disturbed by

intertribal warfare, slavery, and forced labor. The tertiary sex ratio, that is, the proportion of adult males to adult females, is 90; but this figure is based on small samples, and, in view of the different degrees of social and economic development of the tribes considered, the significance of such an average is of doubtful value in determining causality. Demographic research seeks to establish correlations between vital statistics and all the social and physical factors of environment. This can be done only by an intensive study of a statistical kind in limited areas, where all contributory conditions have been analyzed. The fallacies that enter into census returns by Africans have been pointed out by E. W. Smith (1935, p. 52).

A sample of the Lobi has been considered by H. Labouret (1931, pp. 51-55), who states that from 457 conceptions a deduction of 87 abortions has to be made. The mortality of infants aged from one to two years is surprisingly low in this sample; only 8 per cent of the total die within the two first years of childhood. Between the ages of forty and forty-five years 45 per cent die. In the age period from thirty to forty years, 17 per cent succumb, and the same percentage survives to the age period between fifty and sixty years.

In Nigeria, a decennial census was taken in the year 1931 when the estimated population was nearly 22,000,000, an increase of seven per cent over the figures for 1921. Fall in infant mortality at Lagos is said to have resulted from work done by the Massey Street Dispensary, and there can be no doubt that a primary requirement in all parts of Africa is the establishment of clinics that reduce mortality in early years (Arnett, 1933a; Perham, 1933; P. A. Talbot, 1926, vol. 4, pp. 1-193).

Census reports for Tanganyika Territory indicate an increase of 22 per cent in the population during the period from 1921 to 1931, which is a tribute to improved living conditions and the eradication of disease. The ratio 60:100 expresses the proportion of non-adults to adults, and the figures, when compared with those from similar territories, indicate satisfactory economic and sanitary conditions. In Tanganyika the excess of females over males is nearly 7 per cent, and in Uganda the excess of females is nearly 9 per cent (Melland, 1934). See also S. J. K. Baker (1937) for an account of the distribution of native population over east Africa; and for Africa as a whole consult Krzywicki (1934).

The physical causes of mortality are so obvious that the less apparent psychological and social factors are likely to be neglected,

since they are more abstruse and difficult to assess. Is it possible that interference with African institutions and habits will lead to apathy and a moribund condition of indigenous races?

The Tuareg of the Sahara are a proud and sensitive people who might decline under social and political pressure, and at the other extremity of the continent the Bushmen hunters are more likely to become extinct than to be assimilated with European culture. But Negroes and Hamiticized Negroes, who form the bulk of the African population, are unlikely to become extinct as a result of cultural pressure from Europeans. The question of disruptive social and psychological forces will be studied later in connection with problems of education and administration, but, for the present, attention will be given only to *physical* determinants that affect population.

The International Conference on African Children, which was presided over by Rennie Smith (1931), was attended by African educationists and administrators, who made a survey of infant mortality in Africa. The report, which illustrates the general nature of the African health problem, is in agreement with what has been previously written by government and missionary officials. Syphilis, yaws, malaria, sleeping sickness, and respiratory diseases, all contribute to adult and infant mortality, while other causes of a high death rate among children are miscarriages, abortions, excessive work of expectant mothers, and lack of competent attention at childbirth. The death rate of Africans is said to be surprisingly high in comparison with European standards, and the remedies are thought to be an extended use of hospitals, dispensaries, welfare centers, itinerant doctors, and health visitors.

In the year 1929, I questioned 53 adult males of the Ovimbundu tribe with regard to the numbers of their brothers and sisters, living and dead, and also as to the number of their children, living and dead. I concluded that the death rate was about 40 per cent.

This pessimistic report on mortality and morbidity does not imply that no effort has been made to aid survival and to reduce suffering. The medical and sanitary reforms of French administration in Morocco have been mentioned. For many years the laboratories of Sir Henry Wellcome have been established at Gordon College, Khartum, for research into tropical diseases. The Rockefeller Institute at Lagos has a skilled staff of officers engaged with research into the transmission of yellow fever and the prophylactic measures that should be adopted. In French Niger Territory, I

traveled with a French physician who was on his way to the Tuareg of Air with supplies of quinine for treatment of malaria, and vaccine as a prophylactic against smallpox. On the Gold Coast, 59,000 children attended clinics in the year 1928, and at Accra a maternity home renders excellent service. Harvard African Expeditionary Reports (Editor, R. P. Strong, 1931) give a comprehensive survey of tropical diseases in Liberia and the Belgian Congo. W. H. Hoffmann (1932) has written on leprosy, and Horn (1933) on the control of disease. An article by Millous (1935) is a valuable summary of the incidence and treatment of sleeping sickness and other diseases in the Cameroons.

FOOD, POPULATION, AND POLITICS

Although millions of natives and large areas are yet unaffected by modern research and treatment, such work makes steady progress, and if the medical and hygienic schemes are broadened and perfected, the attainment will lead to a social problem which should be examined. Every social worker knows that in solving one problem he not infrequently creates another. At present, Africans are far superior to Europeans in numbers, and at times there is truculence and unrest. But the present disaffection indicates only the beginning of national consciousness, and a sense of unity will doubtless be strengthened by extension of education and an increase of population.

Against this, it might be argued that pressure of the growing population on food supply will assure an adjustment of numbers to their means of subsistence. But research in agriculture and animal husbandry is meanwhile tending to make the supply of food equal to the demand of a growing population. Hoe cultivation will give way to the plow. The quality of maize, beans, and millet will be improved, and rotation of crops will be better understood. Breeds of cattle will be selected because of their milk-giving qualities, immunity from disease, and food value; and, as a result of European example, native prejudice against certain types of food will break down. For example, the Ovimbundu are now relinquishing the concept of cattle merely as a sign of wealth, and people are beginning to use milk as food. In many localities, there is evidence that Africans are becoming less conservative, for they are willing to cultivate vegetables introduced by Europeans. The subject of agriculture in relation to population and health has been discussed by A. D. Hall (1936). The most comprehensive work we have on the sociological aspects of nutrition is "Hunger and Work in a Savage Tribe" (A. I. Richards 1932). There has recently been a concentration

on the importance of diet, and to this subject a whole number of "Africa" (vol. 9, No. 2, 1936, various contributors) has been devoted. In his introductory article to this series of essays, J. B. Orr outlines the problems thus (p. 148):

"(a) What does the native eat? i.e. what types of food and with what nutritive values; quantities of food consumed, as a yearly average and at different seasons; distribution of food as between different members of the community.

"(b) What effects does this diet have? On the physique of the native; the vital statistics of the tribal area; the rate of incidence of various diseases, especially those believed to result from dietetic deficiency; and the type of work carried out.

"(c) What determines the native's choice of diet? the potential food resources of the environment and the native methods of exploiting them; incentive to work and the labor strength available; his dietetic theory and practice, emotional attitudes to different food-stuffs, and religious and magical beliefs.

"It is obvious that to complete a study of this type scientific experts of different kinds must cooperate. The chemical constituents of the native diet can be estimated by the bio-chemist. The physique and health of the natives must be described by a qualified medical officer, while for a knowledge of the chemical composition of the soil, or the possible developments of animal husbandry, the agriculturalist or the veterinary officer must lend his aid. Lastly, for a knowledge of the native's attitude to food and its production, his eating customs and methods of distribution, the anthropologist with his linguistic knowledge and training in observation will be an essential member of the team."

The question then arises, will scientific control aid the survival of Europeans in such a way that the numerical ratio of Europeans to Africans is unaltered? The fact cannot be denied that Europeans exist in Africa today in a measure of health and comfort that would have been thought impossible only fifty years ago. The nature of foods, clothing, houses, and habits of life have been controlled by medical knowledge so as to give Europeans a measure of immunity from tropical Africa, and no one can foretell the extent to which acclimatization may advance. Yet, so far as present evidence is trustworthy, no amount of scientific research will enable Europeans to compete numerically with Africans.

If this argument is sound, a serious situation is inevitable; in fact, a crisis has arisen in the Union of South Africa, where politicians

are divided in their views on the native problem. The nature of this problem, which arises from numerical superiority of Africans and a rise of social consciousness resulting from elementary education, has been presented in a series of articles edited by I. Schapera (1934d). Some of the main contributions to the volume include a description of the background of Bantu culture, the organization of reserves, discussion of the effects of Christianity, the segregation policy, and the part which will be played by the Bantu languages and music in future cultural development. This volume, though confined to the study of conditions in South Africa, is a helpful introduction to all the problems of administration.

LABOR LAWS

A European demand for African labor has forced attention to the difficulty of securing manual help without injustice to Africans. Recruiting has sometimes meant that Africans have either involuntarily, or with the lightest camouflage of consent, made contracts which they have not understood. In the period 1925-26, reports on this subject were prepared under the auspices of the Bureau of International Research of Harvard University and Radcliffe College (Buell, 1928).

The terms of agreements made between Europeans and Africans relate to duration of service, the nature of the work, the distance from home, and the restrictions imposed in labor camps. These points are not clearly apprehended by untutored natives, who press their thumbs on the ink pad and then place their marks on the indentures they cannot read.

In some instances no formal agreement has been made, and from the office of a High Commissioner an order has gone forth to subordinates, demanding a quota of men from each village under the administration. The labor may be demanded for work on roads, for privately owned mines, or for engineering works. Labor of this kind may be demanded in lieu of hut tax; but the period of service required has often been out of all proportion to the short service which should have been accepted instead of a monetary tax.

One obvious abuse of a recruiting system is the intervention of a government in order to obtain labor for a private industry which pays the government a per capita sum for each laborer. Moreover, if a government officer passes an order for labor to each of several village headmen, their choice falls unjustly. Some persons who are in favor with their chief never serve in the *corvée*. But others have

no sooner returned home than they are again selected because they are impecunious and unable to make a bargain with their chief.

Under a system of forced labor, villages are depopulated, agriculture is at a standstill, family life is disturbed, health suffers through concentration in labor camps, and female laborers may be in charge of male overseers who do not respect them. Fortunately, some of these flagrant abuses have been remedied, but further reform is still desirable, since a great hiatus exists between passing a law, formulating a principle, and the actual prevention of abuses.

One inquiry conducted by the League of Nations is a warning to those critics who believe that injustices to Negroes arise only from administration of labor laws by Europeans. Recent events in Liberia indicate that some of the grossest abuses of the system of indentured labor have been perpetrated by educated Negroes on the primitive tribes of the interior. A report of the League of Nations states that in Liberia there has been a policy of the closed door which has hindered research, cramped education, and stifled commercial enterprise. Intimidation has been the chief instrument of Liberian policy, which has allowed no presentation of grievances and no redress. The system of pawning debtors or their relatives in order to pay creditors has been greatly abused, and so also has government recruitment of labor (Christy, 1931a, b; M. D. Mackenzie, 1934).

The year 1930 was one of great moment in relation to the administration of African labor laws. The French Government passed an act demanding preliminary medical examination of laborers, and arranged that the men should be transported to the site of work if the distance exceeded fifty kilometers from their village. The Belgium Government sent commissioners to investigate conditions of native labor in the Belgian Congo. The policy of the British Colonial Office was concerned with the absence of factory legislation, the employment of women and children, and the lack of compensation for disabled workmen. As a result of deliberations on these points, mining laws were adopted for east Africa. In Uganda, factory work for children under twelve years of age was forbidden, and children between that age and fourteen years may now be employed only under special regulations.

The International Labor Conference urged suppression of compulsory labor in all its forms, and the progressive abolition of labor which is now demanded in lieu of taxes. In 1930 France passed a decree against the recruitment by government of labor for private enterprises, and acts were passed to regulate all forms of labor.

Portugal decreed that the state may not compel natives to labor except on public works, or at work which is profitable to the natives themselves, or in expiation of a penal sentence, or in fulfilment of monetary liabilities. Clearly, codes of this kind are ineffective unless they are administered in the *spirit* of the agreement made with the League of Nations, for it is evident that the clauses of the acts may be interpreted in different ways.

As an introduction to labor problems in general, a work by G. St. J. O. Browne (1933) is important. Two short general papers on the labor and economic life of Africans have been published by W. Benson (1931) and A. Werner (1932). To the subject of migration of labor and the recruiting of Africans for service in South African mines, Schapera (1933, 1934d) and W. C. A. Shepherd (1934) contributed. Schapera (1928) has discussed the economic changes that are taking place in South African native life, and a similar study of the same problem has been made by J. D. R. Jones and A. L. Saffery (1933). Schapera's most recent contribution to the study of cultural contacts is an article (1936) relating to western civilization and the Kxatla tribe.

A report by J. M. Davis (1933) is a consideration of the effect of service in the copper mines of central Africa on Negro customs and institutions. Research of a similar kind has been done by Leubuscher (1931) in considering the South African native as an industrial worker and a town dweller, and by Hellmann (1935) who has described "Native Life in a Johannesburg Slum Yard." One of the most detailed studies of African laborers has been made by G. A. Oldfield (1936) in his economic and social analysis of the position of railway workers in Nigeria. Wages, food, housing, education, social status, and personal reactions to the work have all been taken into consideration. The article indicates that an almost unlimited field of inquiry exists, since similar studies could be made for other occupations that attract African laborers in various parts of the continent. Economic facts and social trends observed in one area may not be true in another; consequently a wide comparative study will be necessary after local data have been obtained.

These facts pertaining to physical welfare and employment of Africans by Europeans lead to the broader question of general education in relation to administration.

EDUCATION AND ADMINISTRATION

Although these two aspects of government are not identical, a close reciprocal relation exists between them. In the first place

a system of administration decides what type of education shall be given, and the system of instruction deeply affects the social and political situation.

Primarily, administration has to decide whether Negroes are educable, and, if it be granted that some form of education is desirable, what the method, the curriculum, and the ultimate aim are to be. For example, is the system of education to aim at providing inexpensive forms of labor for Europeans? Or, on the contrary, should the instruction be devised to aid Africans to follow their own pursuits of agriculture, handicrafts, or cattle-rearing with greater intelligence and success? And what is the administrator's point of view respecting an education that will enable natives to exercise the franchise and so take an intelligent part in their own government?

These may appear to be trite questions, but the fact remains that they have not been satisfactorily answered. Consequently, administrative policy shows a tendency to subterfuge, and in the absence of clear aims and the courage to pursue them, legislation merely tends toward temporizing and avoidance of open conflict. There is a clash between ethical ideals and expediency, for it is well known that an educated Negro can be a political embarrassment if he agitates for extended social and economic privileges.

In Africa a hiatus often exists between legislative theory and the practical application of ideals expressed in statutes, and this consideration emphasizes the fact that problems of Africa have to be dealt with on a local basis. Marcus Garvey did, indeed, organize a group having as their slogan "Africa for the Africans," but the linguistic and cultural evidence adduced here should have made clear that the great size of Africa together with racial and other diversities make a unification impracticable. Yet, despite the necessity for recognizing the local nature of social problems, some general principles are profitably discussed, and one of these is the different attitudes of various European powers toward African subjects.

In British territory, the color line is strongly drawn, and a person having even a small proportion of African blood belongs to African people; therefore, such an individual is at a social discount. In Portuguese possessions, for example, European males, through sanction of custom, may live openly with colored females. A home may be formed, mulatto children may be raised, and some of these are sent to Europe for education. In British territory, union of a European male with a colored female is always a temporary, and

usually a clandestine affair, without recognition of progeny. L. P. Mair (1934) points out three main European attitudes toward Africans. There is white man's country, where the native is merely contributory. France and Portugal follow a policy of assimilation. The British have in certain regions adopted a system of indirect rule or parallel development.

Further, the social, political, and industrial relationship between Europeans and Africans is dependent on density of native population, the cultural status and occupations of native tribes, the existing cohesion and sense of solidarity among these tribes, and lastly the climate as a factor which might either prohibit or encourage settlement of Europeans.

But, despite the complexity of these problems, there is a possibility of examining general trends of competent opinion respecting axioms of administration and education. In this connection, several main points to keep in view are the educability of Africans, the methods and subjects which best fulfil the ideals of education, the place of religion in education, and, finally, the political, social, and economic results of training Africans in schools founded by Europeans.

A problem bearing on educability is not likely to find a ready answer, since various technical points, together with practical considerations, have to be deliberated. Psychologists are interested in testing innate intelligence, and they wish to know whether inborn mental endowment determines the achievement of races, quite apart from the influence of social background and general environment. So far as Africa is concerned, tests of intelligence have been applied only in a few schools of Kenya and South Africa, and such research is in the earliest experimental stage. This fact, combined with the diversity of views respecting the scientific values of "scores" and "intelligence quotients," makes the method unsuitable for assessing educability and determining the instruction that should be given.

But on turning to more practical criteria it must be granted that the mental qualities of Negroes and other races can be judged by achievement in their own environments. Yet any attempt to place these attainments in a category and to label the achievements as high or low is too artificial and arbitrary, since the criterion is really one of adaptability and survival, rather than complexity.

The foregoing chapters describing African cultures have proved that Negro agriculturalists, Hamitic pastoral tribes, Bushman hunters, and people of the Saharan camel culture have all realized great achievements in adaptation and survival, during which process an

intelligent control of repressive factors has operated. The social, religious, political, and economic life of Negroes demonstrates a power to coordinate these elements into definite social patterns to which loyalty is secured by various methods, including initiation rites. In music, handicraft, and unwritten literature, African Negroes have reached a high standard, and Negro art, especially in the form of wood-carving and metal work, has during recent years been keenly appreciated by European and American critics. Therefore, with such evidence before us, the relegation of Negroes to a low order of intelligence is illogical.

Those who deny the educability of Africans have often made at least a tacit, if not an expressed assumption, that the crucial test of intelligent response is readiness to absorb European education. But this postulate is fallacious, since some intelligent African tribes wilfully resent European culture. Yet it must be conceded that some assimilation of European education is essential if Africans are to cooperate in the higher tasks of commerce, engineering, and political control.

That some natives are able to benefit by European education so as to attain high standards in literature, medicine, and political life is attested by achievements of full-blooded Negroes. Such progress is exceptional, but perhaps the attainments are rare only because of lack of opportunity. If a tree brings forth samples of fruit that are pronounced excellent, one may ask why there is not a higher yield, but the potentiality of the tree to yield something of high quality can no longer be questioned. The argument that the average achievement of Negroes is low in comparison with European and American attainment, though true, is not admissible as a protest against schemes for the further education of Negroes and their gradual absorption into political life.

If one may judge from the Negro writers of Africa, who include A. K. Ajisafe (1924), S. Johnson (1921), J. H. Soga (1930), and T. Mofolo (1931), European contacts and education reveal great natural ability. Results obtained by the International Institute of African Languages and Cultures in the encouragement of Africans to write books in their own languages have been gratifying. Competitions have proved the ability of African scholars to take advantage of European education for the development of their own languages as modes of thought and expression. These facts further demonstrate the injustice of denying that Negroes are capable of profiting by European education.

The opinions of Europeans who have been in contact with Negro tribes for a long period are valuable in connection with the problem of educability. When speaking of the Yao of Nyasaland, H. S. Stannus (1910, p. 295) remarks that a certain degree of precocity is apparent in young boys, but this is lost when they arrive at puberty. Sexual excesses seem to reduce them to a state of semi-imbecility, but from this apathy they may recover, or, on the contrary, they may remain less receptive and intelligent than they were during boyhood. This is a somewhat general opinion, and if the observation is true, what is to become of the ideal of education as a preparation for participation in European administration?

Here lies the difficulty. A Negro social system has encouraged early marriage, which usually follows soon after puberty rites. The institution of early marriage and the desire for progeny are corner stones of the social structure of Negroes, whereas in European society marriages are delayed long after puberty, for social, educational, and economic reasons.

This European custom of delayed marriages has advantages in fostering mental development after puberty has been reached, since matrimony inevitably brings restrictions because of early motherhood, and the fact that the husband must concentrate on supporting a family. Postponement of marriage is a form of birth control in the Malthusian sense, and this control leads to improved education, economic stability, and a higher level of material and intellectual culture.

The remedies for marital customs that keep African life at a low economic level and retard further education are not obvious. Is it possible that neo-Malthusian birth control will be taught by Europeans? Is there a prospect that early sexual interests may be sublimated by rival attractions, including athletics? No remedy seems feasible except a slow substitution of European marriage customs and a changed economic outlook in native life. Gradually, and as a result of European influence, a higher standard of life will be desired. Boys and girls will covet greater variety of food and clothing, while better dwellings will be demanded; then early marriages will no longer be possible and unions must be postponed. But such changes in marital custom may lead to illegitimate births, more abortions, and an increase of prostitution. We may be certain that in partly solving one social problem another will be created.

After long experience as a missionary among natives of the middle Congo region, J. H. Weeks (1909, p. 131) states that up to

the age of fourteen years boys are easily taught, but after that age comparatively few make any real advance in learning. Their thoughts become focused on other matters, such as trade, hunting, building homes, and matrimony. The European system of education is of such short duration, and its attraction is so slight compared with the native social background, that the latter proves dominant. The report continues to state that pupils were clever in handiwork of all kinds, and that their memories were good for native lore. Respect was shown for force, but gentleness was despised and interpreted as weakness and inefficiency. Many European observers in other parts of Africa will agree with this estimate of Negro character and ability, and, while urging that a system of education is desirable, there is no denial of the existing unstable emotions and juvenile reactions of untutored Negroes.

The loyalty of Bushongo natives to their chiefs has been described by E. Torday (1925, p. 20). Trials depending on evidence from natives became a mere farce owing to the adherence of every witness to his chief or tribesman. "If necessary, the witness went joyously to prison for perjury or contempt of court, his conscience satisfied by knowledge of having done the right thing." Torday points out the educational possibilities in this attitude of allegiance. A. C. L. Donohugh (1935) discusses the possibility of utilizing basic factors in Negro life during the process of accommodation to European culture. Negro civilization respects authority, has powers of economic and political cooperation, and possesses an educational background of music, art, and folklore. These, according to Donohugh, are the essentials of African culture.

That Negroes are highly educable along familiar lines, such as handicrafts and music, is not open to doubt. In addition to this, administrators may be sure that the Negro race has no inherent defect which renders it incapable of profiting by education of a European type, including reading, writing, and arithmetic. But no one is able to forecast the general level of attainment to which Negroes might rise under favorable educational conditions, and with a social background that is encouraging instead of repressive. The solution of this question can come only from experiment throughout several generations during which home conditions and general environment are gradually improved. The question of the Negro as a biological inferior has been discussed by Reinhardt (1927).

If some kind of education is desirable, what is it to be? All who have met African Negroes on the west coast are aware that the

rudiments of education have tended to produce a cheap class of labor for Europeans. A strong tendency exists towards the acquisition of superficial knowledge of reading, writing, and arithmetic. Then native village life is despised, and a low grade of employment is sought at the coast. There the sartorial habits of Europeans are imitated, and impudent cunning takes the place of the qualities of honesty, courtesy, and hospitality which a traveler often receives from untutored natives of the interior, who have not experienced much contact with Europeans.

A consensus of opinion among administrators, ethnologists, and missionaries favors the primary importance of native languages in the education of African students. The acquisition of a European language is desirable, but possibly of secondary importance. H. Labouret (1935), who was for many years an administrator in French West Africa, maintains that the languages of the Mossi, Mandingo, and Hausa are understood by sufficient numbers of West Africans to justify their selection as standard languages which should be taught over wide areas.

Dr. J. van der Poel (1935) argues that the language favored as a medium of instruction should be the one from which the pupil will derive the greatest social and economic benefit. Dr. Van der Poel, speaking of education of Negroes in South Africa, considers that administrators flatter themselves in speaking of their system of education. At a generous estimate, about 24 per cent of native children between the ages of 6 to 16 are in school, which means that about 1,200,000 are receiving no education whatever. He then shows what a small percentage of those receiving education advance to a standard which can fit them for social, economic, and political cooperation with Europeans.

The problem of providing a written medium for the expression of African languages has occupied the attention of many experts. The idea of having a standard alphabet which could be used for any language is not a new one. So far back as the year 1853, C. R. Lepsius invented a universal alphabet which was thought to be adequate for the writing of any language. But research has proved that the number of sounds produced by human voices is far larger than Lepsius surmised. The International Institute of African Languages and Cultures has made great progress with a system of symbols which are adequate for expressing all the sounds of African languages. After further research and agreement respecting the affinities of certain dialects and languages, still more vernaculars

will be reduced to book form for purposes of instruction (D. Westermann and I. C. Ward, 1933). It is desirable that Africans should learn to think and write in their own languages, for, as H. A. Junod has pointed out, a native speaking his own tongue can be strong and eloquent, but if obliged to speak a foreign tongue he becomes a caricature, so ill adapted is the European language for African modes of thought and expression.

An apt illustration of the humorous results of forcing the teaching of English is given by A. W. Cardinall (1927a, p. 261), who quotes a native's contribution to a newspaper: "I must again include that he was a servant to Dispenser X—— while in S——, and was feeding on him as mistletoe. On my taking over the duties he allures me the simplicity of approach, and to cooperate I made a drawback by not getting into his association and colleague as my predecessor was with him."

H. H. Johnston tells of the Negro founder of a cricket club, who advertised that the new venture "would redound to the glory of God and to our fellow men." Another Negro, who was engaged in a suit for defamation of character, sued his opponent for "definition of character." Julian Huxley in "Africa View" gives many instances of humorous English from essays of east African school boys, and points out that educational effort which aims primarily at making Negroes speak and write English is misdirected.

When discussing the selection of a curriculum for African schools, the problems raised are similar in principle to those which have perplexed educators in Europe and America, but with additional difficulties. The experimental nature of educational theory and practice cannot be too strongly emphasized, for everywhere great divergence of views exists. The reports of Matthew Arnold prove the complexity of the problem in England during the growth of a system of public education, and the more recent philosophical writings of John Dewey for American education show the difficulties respecting choice of subjects, methods of teaching, finance, and the ultimate aims of education. How shall educational method blend instruction in "bread and butter" subjects with training in citizenship, and to what extent shall pupils be introduced to disciplines which, though of no great utilitarian value, give a wider mental outlook and keener enjoyment of life?

Nearly a century ago, Robert Moffat (1842), working in his mission schools of South Africa, realized the importance of developing Negro pupils in the direction of their own natural aptitudes,

instead of attempting to give a European veneer of education. Moffat demonstrated the value of handicraft and the elements of secular education in raising the tone of native life, and at the present time such educational ideals are steadily gaining ground.

In "Race Problems in the New Africa," W. C. Willoughby (1923) expresses the idea that education for the Negro should include a wide diffusion of information relating to fundamentals of scientific agriculture and an improvement in the technique of native handicrafts. This suggestion is important since these occupations are basic in Negro life. At the present time, technical education at the Jeanes School near Nairobi; Kampala in Uganda; Gordon College at Khartum; and at Achimota College on the Gold Coast, is highly advanced, and the aim is to disseminate this knowledge widely by the agency of native teachers. I observed in Angola and Nigeria that missionary and government schools were concentrating on handicrafts and agriculture in the hope of improving the economic conditions in native villages, for it is logical to suppose that improvement in material comforts and a raising of the standard of living are necessary preliminaries to more advanced teaching.

After years of missionary work among the Bathonga of Portuguese East Africa, Henri A. Junod (1912, vol. 2, pp. 269-277) thinks that the teaching of reading and writing in the vernacular should be the basis of education. He believes also in the oral teaching of one European language, arithmetic, and of elementary science to show the rationale of agricultural operations and the futility of magic and witchcraft.

The extent to which instruction can help Africans to improve their handicraft, agriculture, pastoral pursuits, and sanitation is a matter of controversy. Possibly the hard crust of custom may be broken, but for a time Negroes will continue to carry their wheelbarrows on their heads, and the use of plows will be slow in superseding the more cumbersome use of hoes. Chapters describing modes of life indicated that many pastoral tribes had great aversion for vegetable food, and, on the contrary, many Negro tribes rely entirely on vegetable diet. A Negro prejudice against the use of milk exists, and the flesh of pigs, sheep, and goats is rarely utilized. In course of time, pastoral tribes may be induced to combine agriculture with cattle-raising, and Negroes may be persuaded to realize more fully the economic importance of animal life.

Problems of education are closely related to the activities of Christian missions and the proselytizing power of Mohammedanism.

The views of several missionaries have been quoted here, and the general acceptance of practical ideals in education is evident. With the spiritual value of missionary work it is impossible to deal, since the subject is highly controversial. Christian missionaries of all sects are numerous, and most of these perform valuable medical and educational work, but the confusion of mind resulting from conflict between Christian and native religion, together with the disparity between European ideals and European conduct, must be considerable, as Bernard Shaw satirically shows in his account of "The Adventures of a Negro Girl in Search of God."

Africans are taught that murder is a civil and spiritual offence, and a murderer knows that he will be punished, not in a hypothetical hereafter but within measurable time at the court of the District Commissioner. Neighbors may raid his cattle or they may put an unpardonable affront on him, yet he must refrain from using his spear; but when Europeans are at war he may join one side or another and kill with impunity, and if he is the owner of a police uniform he is expected at command to turn his machine gun on his own rebel tribesmen.

A cynic might ask why Christian theology should add another god to the pantheon of rather otiose African deities: Njambe, Kalunga, Suku, and others. But the fact remains that European contacts are breaking down native restraints, which have been exercised through chieftainship, social customs, and ancestor worship; and what substitute is to be made for these controls?

It is hardly to be expected that Negroes should attain the standard of intellectual control and social ethics recommended in Bertrand Russell's philosophy. Concepts of rationalism through education, intelligence, and self-control are not readily assimilated by Europeans. Then how can educators hope to fortify African Negroes with intellectual idealism? Negroes require some simple standards of conduct—many of their own are excellent—therefore, if native thought is to be disintegrated, perhaps the simple doctrine of Christianity, apart from theism and mysticism, may provide a social control. T. Cullen Young (1935) doubts the compatibility of Bantu and Christian beliefs, since the former are founded on an indestructible human relationship, while the latter are based on God and personal relationships with Him. The present Christian system fails in not offering comradeship and association. Discussion of missionary problems will be found in J. H. Oldham (1934, 1935), R. Thurnwald (1931), W. Blohm (1933) and D. Westermann (1937).

Mohammedanism (Saintyves, 1933) has had far-reaching effects on law, art, social life, and political organization, and this religion helps to lift natives from naked paganism. Mohammedanism in Egypt, India, and Persia has a cultured background of art, architecture, philosophy, and poetry. Arabic script has proved of practical value for writing several languages, including Hausa and Mandingo. Absorption of Africans into the Islamic faith may be of a perfunctory kind, depending merely on the repetition of a creed; but may this not be true of acceptance of Christianity and other religions? Mohammedanism has crude beliefs and base practices; so have other religions, not excepting Christianity. Provided the best of Islamic teaching could be given, and granted that certain reform movements which are now advancing in Turkey and Egypt continue, Mohammedanism may prove satisfactory as an educational and religious stimulant.

Museums exist in all the principal towns of South Africa, north Africa, and Egypt. Such institutions are also functioning at Nairobi, Zanzibar, and in Sierra Leone. But more museums should be erected in order to preserve records of indigenous cultures, for Africans have a right to be proud of their achievements.

At least in theory, the cinema is an educational factor for showing modes of life in all parts of the world, historical events, current news, and natural history. But, unfortunately, many of the motion pictures seen at the larger towns of the coast, and in the inland cities, portray a sordid side of European and American life, with detrimental results to African morals. The censorship requires greater severity and discrimination (Besson, 1934). An improvement in the quality of motion picture films is likely to be effected by the department of Social and Industrial Research of the International Missionary Council, which now has the matter under consideration (Notes and News, JRAS., vol. 34, 1935, p. 351).

A primary aim should be the assistance of Africans in living their own social patterns more efficiently with respect to agriculture, handicrafts, and pastoral pursuits. Yet the success of European administration does depend to some extent on the teaching of subjects which are normally part of a curriculum in European schools. But while imparting a groundwork of reading, writing, arithmetic, and geography, together with some elementary science, the medium of instruction should be the vernacular.

Education, as the etymology of the word implies, should be a drawing out of possibilities in order to give equality of opportunity;

there should be no forcibly submerged classes, but under no system is equality of attainment possible or desirable. Differences in individual endowment will secure a grading of employment; therefore, education will never deprive Europeans of the manual labor which is essential for developing Africa. This labor Negroes are usually willing to furnish, under protective legislation.

In making a selection for reading, attention should first be called to contributions dealing with general facts and principles. There are countless local problems of education that cannot be considered here, but all these are variants of certain major trends and conditions.

A valuable source of information, in addition to government handbooks, are the reports of the Phelps-Stokes Commissions. "Overseas Education," "Africa," "L'Afrique Française," and "Outre Mer" are four of the most important periodicals for following discussion of educational ideas and experiments. The following are all contributions to the background needed for detailed study. H. Jowitt (1932) has produced a work setting forth the principles of education for teachers in the African field. R. Smith (1932) and E. W. Smith (1934b) have contributed articles dealing respectively with "Education in British Africa" and "Indigenous Education in Africa." L. P. Mair's (1935a) article regards the education of Africans from an anthropologist's point of view. A. W. Hoernlé (1931) discusses the African's conception of education, while Mumford (1929), A. V. Murray (1935), and Lord Lugard (1933b) have respectively considered education in relation to social adjustment to Europeans, to indirect rule, and to racial relations.

Special studies of African languages as an educational medium have been conducted by Meinhof (1928), Barnouw (1934), A. L. James (1928), and R. M. East (1936, 1937).

Topographical studies of education and administration are the subjects of articles by G. C. Latham, who considers the relationship between education and indirect rule in east Africa, and by J. Currie, who gives an account of educational experiments in the Anglo-Egyptian Sudan. A. D. Power has reported on health in relation to education in Nigeria, and among numerous studies of education in South Africa are works by E. H. Brookes (1930), P. A. W. Cook (1934), and an article by Van Der Poel (1935). The literature on this subject of education in relation to administration is extensive and grows rapidly, but the references given may be regarded as a representative sample of current views and experiments over the greater part of Negro Africa.

ANTHROPOLOGY AND GOVERNMENT

In the African field of research, and in other parts of the world as well, anthropology has in recent years taken a practical trend in the effort to establish a definite liaison between ethnological science and administration.

Under British rule in Ashanti and Nigeria, government anthropologists have proved that the ethnological study of African tribes is of the greatest practical importance in avoiding conflicts. It is self-evident that legislation should be based on a study of local conditions, including indigenous forms of government, social organization, land laws, magic, and religious beliefs, for without understanding of these institutions injustice and lack of harmony are likely to prevail. A European understanding of African thought, supplemented by education of Africans, is the best means of avoiding clashes, which result chiefly from misunderstandings and ignorance.

Everyone is willing to admit that a gap exists between sound theory and efficient practice, and no anthropologist supposes that academic instruction in ethnology will by itself ensure successful administration. Some of the most successful commissioners were in the field before ethnology was a university subject, and these pioneers won their way by courage, common sense, and intuitive insight into African character. Yet this empirical success is no argument against the need of ethnological training for all who intend to come into contact with African institutions.

The foregoing summary of the ethnology of Africa will have made clear that African attitudes and reactions to European influences are extremely complex. The philosophy of Negro religion is abstruse, and mistakes might be made through ignorance of the Negro concept of land as a sacred possession of dead ancestors. Neither is a European likely to make due allowance for the importance attached to certain objects, such as sacred trees and stones, which are the shrines of tutelary spirits. Social controls of African tribes through chiefs, secret societies, witchcraft, and magic of medicine-men are further factors which are not always sympathetically understood by administrators. Moreover, initiation rites and the institution of polygyny are sometimes obstacles to schemes of adjustment between Negroes and Europeans.

Reaction to European discipline is sometimes of a humorous kind, since the effect produced by punitive measures is the opposite from the expected result. Some primitive tribesmen from the Jos plateau in Nigeria were imprisoned and employed on government

work for a period, during which time they wore clothes and received rations. The clothes were admired and the food appreciated. On release, the prisoners, instead of returning to their own tribe sought employment from Europeans, and in making application boasted, "I be government man," in proud reference to their detention and enforced labor for the government.

The obstacles to adjustment between Africans and Europeans are of two kinds, the economic and the psychological. For example, difficulties relating to taxes on huts, the ownership of land, the right to migrate, and the demand for native labor, are likely to arise when people and cattle are dying from epidemics, when the rows of corn are thin, or when locusts strip the vegetation, and against these disasters research and palliative measures are always directed. But an experienced administrator knows that disaffection and open rebellion are just as likely to be the result of European disregard for a sacred rite or a social custom.

The guiding principle of British administration states that interests of African natives must be paramount, and, if these are in conflict with European interests, the former should prevail. Progress toward self-government should be left to take the course which the passage of time, and the growth of experience, indicate as being best for the country.

On first reading, this dictum may seem to meet all the requirements of justice, but the value of the ideal lies entirely in the spirit and method of interpretation through legislation, and in the procedure followed when dealing with specific crises. What is intended as a high precept may in effect be no more than a platitude, and at every point in the application of the guiding principle great latitude is allowed to the European ruler, since he is the person to decide what is for the welfare of the African.

If the general principle of government is interpreted quite literally, then the ultimate situation of the white race must be inferior to that of the black race; but such a condition would be anomalous, for the white men are the rulers. What does the injunction really mean? Perhaps the interpretation is that Africans should be treated with kindness and consideration so long as their interests and political power do not conflict too violently with the ambitions of their rulers. But if education, combined with medical care, produce a numerically superior and discontented people, what is to be done when they, conscious of their strength, demand a large share of political power?

At present, Europeans are often justified in rebutting a demand for further political rights by stating that the general standards of education and intelligence are too low for such rights to be effectively used. But an answer of this kind will not always be valid, and so long as Africans have great numerical superiority, a backing of armaments appears to be inevitable for maintaining the supremacy of European control.

Only the general nature of the administrative problem has so far been mentioned, but each locality calls for specific consideration and an adjustment of administration to local needs. With the gradual advance of European rule and culture, the strong-man type of administration, in which one officer arbitrarily ruled a large territory, is becoming rare, though the method was well known in early days of administration. This kind of personal rule depended for success on a strong individual who, within wide limits, was both the law and the executive. At present the system is of necessity more complicated. More is done for Africans, more is expected from them, and a greater number of men is required to effect supervision.

Naturally, the degree of self-government has to depend on the level of culture which had been attained before European intervention. A report on government in the Province of Oyo, Nigeria, in the year 1931, illustrates the operation of administration through the agency of African chiefs themselves. But it should be remembered that tribal life and the authority of chiefs have in some areas so far broken down that government through native leaders and tribal institutions is not possible. The report states that under indirect rule general progress and prosperity were satisfactory. All the native powers continued to exercise their prerogatives wisely, and collection of taxes proceeded with punctuality and good order. The native administration has its own schools, police, public works, hospitals, and dispensaries, all of which are organized with freedom, but under the possible veto of British officers. The Yoruba understand the nature and benefit of services for whose maintenance taxes are paid, and they are satisfied that the organization is for their own benefit. See C. K. Meek (1937) for detailed study.

So far as can be seen at present, Nigeria and the west coast generally will continue to present a definite type of contact problem which is somewhat simplified by the topographical and climatic conditions. White settlers could not reside permanently and raise their families as they do in south Africa and in some parts of Kenya

and Nyasaland. The contact of Europeans and Negroes in west Africa is, therefore, not complicated by European desire for permanent settlement of the most desirable areas. But of course the outlook in west Africa might be changed by an extension of railways, improved irrigation, and the further conquest of disease.

A system of administration based on ethnological study has been tried in Tanganyika under the aegis of Sir H. Byatt and Sir Donald Cameron. The scheme seeks to utilize tribal institutions; therefore, all important innovations in administrative method are explained by itinerant officers before the enactment. A month after this explanation has been given, the officers again make their rounds in order to test the reaction to the proposed methods. Gradually, in accordance with the determining principle cited, administration becomes less arbitrary, yet at present no one can forecast the degree of political rights which can be granted in the future. But granting of anything like a general franchise appears to be impossible, since the European rulers would find themselves outvoted on every measure involving a conflict between the interests of Africans and Europeans.

The so-called "native question" of South Africa and Kenya is in reality a series of problems connected with disparity between numbers of Africans and Europeans, the presence of immigrants from India, division of land, qualifications required for exercise of a franchise by Africans, and the reservation of certain lands and occupations as spheres of influence for Europeans only. These are indeed a formidable series of problems all of which are closely related.

Lord Lugard thinks that the difficulties of land ownership are exaggerated, and that, with improved methods of cultivation and the combination of agricultural and pastoral pursuits, enough fertile land will exist to satisfy the demands of both Africans and Europeans. In South Africa, General Hertzog's policy calls attention to certain alternatives, and of these the policy of segregation, sometimes called parallel development, makes an appeal to many who are qualified to judge. A policy of segregation implies that if Africans associate freely with Europeans they do so on a definitely inferior grading, and the color line must be drawn both socially and politically. But, on the contrary, if Africans accept reservations (and it is not clear why they should do so in their own country), they may govern there and rise in any occupation as high as their abilities will allow.

But such a system of closed reservations would not suit all of the European settlers, since many of them, farmers, for example, desire to employ African labor. In South Africa, the crux of the problem appears to be the numerical superiority of the Africans, together with the fact that education has advanced far enough to stimulate a desire for political rights and participation in occupations which have hitherto been regarded as European preserves.

H. S. Scott (1936) has given a summary of some major differences between the problems of west, east, and south Africa. In west Africa, a vast area is being developed by Africans themselves under the guidance of a small number of government officials. Traders and commercial companies work through natives, with as little disturbance as possible of native ownership of the soil. At the other extreme is the case of South Africa, where the native has been deprived of the bulk of the land, and has become a wage-earner in mines or on farms.

In Kenya, the European has assumed proprietorship of a part of the land, but the bulk of the land remains available for the African population. Scott proceeds to contrast the position in Kenya with that in South Africa. The relations between the European and African in Kenya are unaffected by native wars, or by the record of slavery. The conditions are friendly and not hostile. "To anyone who, after living in South Africa, comes to Kenya, the change in atmosphere is amazing and delightful."

Space has permitted no more than a brief outline of the history of European intrusion and the nature of the general and local problems that have arisen through contacts of Europeans and Africans. Social studies relating to physical welfare of Africans, labor laws, education, and tribal disintegration are rapidly becoming pre-eminent in anthropological work, not, it is to be hoped, to the detriment of ethnology with a historical and ethnological basis. On these older forms of anthropological investigations, sociologists, educators, and administrators will have to rely for their datum line, as L. P. Mair (1934) so well shows in a comparative study of the present Baganda and their forebears, whose indigenous institutions were studied by Canon J. Roscoe.

In conclusion, emphasis should be placed on the need for studying several recent and important contributions to the examination of culture contacts. G. C. Brown and A. McD. B. Hutt, the authors of "Anthropology in Action," think that the first step should be to obtain a general historical account of the tribe, its origin,

traditions, and organization, to be followed by a description of the present political, economic and social condition. "A comparison might follow of the old tribal hierarchy with the existing administrative and judicial organs, showing differences and if possible accounting for them. These inquiries might be regarded as an examination of the means, and investigation would follow into the measure of success in achieving the desired end. This would necessitate an attempt to formulate with some precision what the end should be, and a distinction between immediate and distant objectives would emerge.

"An investigator will wish to know something of the native political organization, the status of the various tribal functionaries, and the position occupied by the subject in the tribe. He should understand the importance of the family and the part which kinship plays in tribal activities. He will also study the rules of marriage and divorce and the attitude of the tribe toward religion and the introduction of new beliefs.

"As the majority of African tribes obtain their living, directly or indirectly, from the land, it is necessary for the administrator to investigate the question of native land tenure in all its aspects. He will examine the system under which it is held, the law of succession regarding it, the uses to which it is put by the tribe, and their present and future requirements in this direction.

"In the economic sphere, the administrator should be in possession of a great deal of knowledge before any attempt is made to raise the standard of living. It is necessary, first, to study the economic organization in relation to the whole social structure of the tribe, so as to ensure that any development will rest on sound foundations. This will include an examination of the customary division of labor, the extent of community cooperation and the sources of income of the average peasant. This later line of inquiry will in turn bring into review the question of wage-labour, and information will be sought as to the general conditions under which it is recruited, and how it travels, lives, and works."

The conception of applied anthropology is then extended to include a study of magic and witchcraft. This subject in itself offers a wide field of research, so different are the local concepts and so varied are the mores respecting the nature and functions of sorcery, witchcraft, and the functions of medicine-men (E. E. Evans-Pritchard and other contributors, 1935, 1937). Other points discussed (by Brown and Hutt) are the powers, responsibilities, and succession

of chiefs, the position of woman before European intervention, the extent to which polygyny is practiced, the practical bearing of reverence for ancestors on everyday life, and the social instability which is likely to ensue from interference with these basic designs of the cultural pattern.

R. C. Thurnwald and his wife (1935) preface their study of conditions in east Africa by pointing out that definite reciprocal benefits result from contact of Africans and Europeans: "The advantage of one party does not necessarily imply the disadvantage of the other. This must be emphasized in face of scores of misconceptions of people who have never acquainted themselves with the countries and the problems of Africa, and of the propaganda which is founded upon unbalanced or distorted reports of others who are not able to take into consideration all the factors concerned. There are, of course, extremes of genuine exploitation. But these belong, for the most part, to past epochs."

Thurnwald's study in social contact and adaptation of life in east Africa views impartially the former position of woman, in comparison with her present status resulting from changes in marital relationships following the spread of both Christian and Mohammedan teaching. Decline in polygyny has far-reaching economic as well as social effects, since reduction of the number of wives interferes with the former division of labor between men and women. The investigators, in addition to surveying the religious and social upheavals that are due to increasing dominance of foreign influence, give a clear exposition of economic changes resulting from immigration of Indians and Arabs.

So complex is the situation arising from European and other contacts with African institutions, and so diverse are the local problems, that the methodology outlined by R. Redfield, R. Linton, and M. J. Herskovits (1935) is welcome as a guide to field workers who feel confused with the play of social, religious, and economic factors, and hardly know where to begin the analysis.

A definition of terms shows that "acculturation comprehends those phenomena which result when groups of individuals having different cultures come into direct and continuous contact, with subsequent changes in the original cultural patterns of either or both groups." "Culture change" is a broader term including the processes of acculturation, assimilation, and diffusion of traits, the relationships of which processes are not constant, but, on the contrary, are highly variable. The results of acculturation are discussed

under the headings of acceptance, adaptation, and reaction. This formulation of principles by the Social Science Research Council of America will give greater precision to research, which, without such guidance, might easily degenerate into a haphazard narration of changes without recognition of their nature, intensity, and inter-relationship.

That practical studies of the kind here outlined will constitute a large proportion of future research in Africa is beyond doubt. The ultimate aim is harmonious adjustment of African and European interests. The future of Africa is obscure, and we are in an administrative twilight. The existing literature dealing with the relationship between anthropology and administration is already formidable in quantity, and there is much more to follow. But a student will no doubt be helped by a classification of the references as given below.

GENERAL REFERENCES

I would place foremost among general works Westermann's book (1934), "The African To-day," which gives a continental review of the fundamental problems of health, labor, education, mission influence, and administrative adjustments. Pitt-Rivers (1927) has published a work of wide scope dealing with general principles involved in studying the clash of cultures. Malinowski (1929) has explained what he means by "Practical Anthropology." The social and economic problems of Africa are reviewed comprehensively by Willoughby (1923), I. L. Evans (1929), C. R. Buxton (1931), and Mair (1936a). Hambly's articles, "Racial Conflict in Africa," and "Africa in the World Today," are of service as brief summaries. J. C. Smuts (1930b) on "African Settlement" should be consulted, while F. Krause (1932) and G. Wagner (1936) have made short studies of ethnology in relation to cultural changes and administrative policy. The mandate system has been explained by Van Maanen-Helmer (1930).

Reference to G. St. J. O. Browne (1935), Oldham (1931), Mair (1933a), and Von Gutmann (1928, 1935) give titles of a general kind serviceable to students who are preparing the way for topographical study. Michelet (1932) has explained the general policy of France in her African empire. We have also in French H. A. Junod's (1931) plea for a more sympathetic consideration of the Bantu point of view. See also Nyabongo (1936), "Africa Answers Back," and J. E. Lips, "The Savage Hits Back." In connection with this

reading Malinowski's (1936b) discussion of "Culture as a Determinant of Behavior" will prove useful.

For the difficulties of inquiry in the field, Schapera (1935), Mair (1934c), and A. T. and G. M. Culwick (1935a, b) should be read, for all are valuable contributions to field method.

Ormsby-Gore (1935) has described indirect rule, and this explanation should be read in conjunction with articles on chieftainship under European rule (Mair, 1936a, b; R. C. Northcote, 1933; and Tagart, 1931). De Cleene (1935) has a valuable article on the former and present status of Mayombe chiefs.

REGIONAL STUDIES

West Africa.—"The Golden Stool," by E. W. Smith (1926), will take a student to the core of the subject by showing how the soul of a people is centered in indigenous beliefs and customs. These are focused on sacred objects that are the life of the nation. E. J. Arnett (1933b) has made a comparison of French and British policy in west Africa. Fortes' (1936) article deals with culture contacts in the Northern Territories of the Gold Coast. Mazé (1935) has dealt with the effects of English legislation on marriage customs. Schober (1936) describes the culture contact situation in Togoland.

East Africa.—The value of the researches of R. C. Thurnwald (1935); of G. G. Brown and A. McD. B. Hutt (1935), and of L. P. Mair (1934) should again be emphasized as detailed regional studies. Mair (1931) also wrote on native land tenure in east Africa, and on the "Growth of Economic Individualism." Kayamba (1932) gives a glimpse of the present-day life of east Africans. M. F. Perham (1931) describes native administration in Tanganyika, and (1934) gives some notes on indirect rule. Orchardson (1931) describes culture contacts between the Kipsigis and Europeans. Leakey's exposition of contrasts and problems in Kenya (1936b) is not only interesting reading but contains views that are valuable owing to the author's long acquaintance with that region. He deals with the present conditions and future possibilities of education, missions, and industry. Huxley's "Africa View" should not be forgotten.

South Africa.—The extensive literature on administrative problems in South Africa will permit only a brief summary. Works of reference to the history of administration and legal procedure are: E. H. Brookes (1927, 1934, 1936), I. E. Edwards (1934), I. L. Evans (1934), Goold-Adams (1936), Hofmeyer (1931), Millin (1927), Rogers (1933), Whitfield (1929). All these are major works. Other

substantial publications are those of W. M. Macmillan (1927, 1930), giving a historical survey of the "Cape Colour Question" and a discussion of "Complex South Africa."

Numerous books and articles deal either with specific problems, or with several problems of a small area. M. Hunter (1933, 1936) should be consulted for social studies of the Pondo tribe. Problems of culture contact and administration in Rhodesia have been examined by Carbutt (1934), W. M. Macmillan (1933), A. I. Richards (1935a, b), and Shropshire (1933). C. T. Loram's (1933) article concerning the improvement of racial relations in South Africa is of general interest. E. J. Krige (1936a) has considered the effect of modern urban life on marital relationships and parental duties among the South African Bantu. The vexed question of areas of segregation has been dealt with by R. F. Hoernlé in two articles (1936a, b). For cultural changes that are taking place in Ovamboland and southern Angola, under British mandate and under Portuguese rule respectively, P. C. Estermann (1932, 1934) should be consulted.

IV. SUGGESTIONS FOR RESEARCH

HISTORY OF ANTHROPOLOGY

A long retrospect of anthropological progress may be obtained from A. C. Haddon's "History of Anthropology" (1910; 2nd ed., 1934). Another valuable source, though not sufficiently appreciative of American research, is T. K. Penniman's (1935) survey, "A Hundred Years of Anthropology." But we need not recede so far to review the changes that have taken place in anthropological method.

In the past fifty years anthropologists have taken different points of view respecting methods of studying human life and cultural relationships. As a natural consequence of the publication of Darwin's "Origin of Species" in the year 1859, evolutionary thought has colored all hypotheses relating to man's physical growth, to the development of his social institutions, economic activities, artistic expression, and elaboration of religious ideas.

Students have been invited to note a steady progress from collecting and hunting to agriculture, and from vague ideas of spirit and animism to concepts of a supreme being. From widely separated regions, data were gleaned with regard to totemism, kinship systems, polygamy, father-right and mother-right; then comparisons were made and theories were promulgated with respect to the origins and diffusion of these customs.

The earliest of English sociological works is "Principles of Sociology," by H. Spencer, whose attempt to formulate laws of association for sociological data created a precedent which many prominent anthropologists followed in their treatment of magic, religion, marriage, and other basic factors of human society. Human life was regarded as a whole; therefore, the field of discourse was unlimited geographically and ethnologically.

Such a method is rational, since the aim of science is the establishment of general laws which reveal relationships between cause and effect. But so changing are the conditions of human life through contacts, so diverse are the geographical, biological, and historical factors, and so incalculable are human caprices, that general laws determining human conduct will be difficult to formulate. A physicist who studies concomitant variations creates his laboratory conditions and makes his own controls, but a sociologist is dealing with constantly fluctuating conditions and mental factors that he does not understand; his human laboratory is complex and erratic.

Some anthropologists have favored a school of anthropogeography which has aimed at interpreting the efforts and destinies of human life in terms of geographical and biological conditions. These physical factors have been regarded as primary determinants in the growth of social, economic, and political conditions as we see them today. Our examination of modes of life in Africa indicates that this point of view is radically sound, but the thesis should not be allowed a monopoly, since the conquests of man have to be recognized, and with increasing inventive power the scope of natural determinants will be further limited.

Certain ethnologists are of the opinion that some branches of historical and archaeological study are unimportant because of their lack of practical application. But in anthropology, as in other sciences, it is arbitrary and hazardous to say where theoretical interest ends and practical considerations begin. Search for the principles of a fundamental Ur-Bantu language may seem highly speculative and theoretical, but the work of examining and classifying Bantu languages may eventually lead to the establishment of a few languages which will serve as a means of communication and an instrument for education.

Prehistoric events, including the spread of the boomerang, bow, and other types of culture, as expounded by the Graebnerian school, may not be of practical importance even if the hypotheses are true, but another type of historical work, for example, that relating to the spread of Mohammedanism in Africa, is essential to ethnological study and sound administrative method in north and west Africa. The history of contacts of the Portuguese with Negro tribes of Angola is an essential factor in a study of the rise and fall of the Negro confederacies of Kongo and Lunda. The facts of history and their bearing on the growth and welding of cultures should not be disregarded; but cultural history and the study of cultural adjustment is not the whole of the problem.

The regrettable tendency is for students to ally themselves with one ethnological outlook and technique, forgetting that method is flexible and that each approach to an ethnological problem has some validity (Hambly, 1929b). In recent years, the practical value of intensive studies of individuals, families, and village groups has been advocated in order to provide data of practical importance in education and administration. An investigator wishes to know the changes in personal and social attitudes that are due to culture conflicts, and his method includes a close psychological study of individuals, and

their reactions to cultural changes. Admittedly, this technique is of practical importance, but the method is one that should follow and not entirely supersede the geographical, historical, and purely ethnological approach.

THE PRESENT

In conclusion, I must emphasize the importance of a general background of sociology and anthropology, for every African problem is part of a larger complex, as I have tried to show in studying prehistory, history, physical anthropology, and social conditions. Our research at many points leads outside the continent of Africa to Asia, Europe, and America, which have contributed to the African problems of today.

Sociology and philosophy are necessary coordinating sciences that assist the visualization of human life as a whole, and an attempt to study Africa in isolation will be ineffective.

M. Ginsberg (1934) has prepared a short study of sociology which begins with a description of the scope and methods of that science. The terms "society," "culture," and "civilization" are defined, and problems of race and environment are presented. The psychological basis of social life and the growth of societies are principal divisions; then consideration of social classes and economic organization leads to a discussion of some aspects of mental development. H. Spencer's brief work, "The Study of Sociology," is less labored than the large "Principles" and really contains the essence of his views. In German, L. von Viese's "Allgemeine Soziologie" is a modern exposition, with emphasis on the methods of the German school. Another helpful book for sociological background is a study of "Culture and Progress," by W. D. Wallis. There are also several books of the type produced by W. Goodsell, who studies the history of the family in a comprehensive way. In considering "Theories of Social Progress," A. J. Todd has produced a general survey which would serve admirably as a background for the study of social problems in Africa.

R. Linton's "Study of Man," Goldenweiser's "Anthropology" (1937), Lowie's "Primitive Society" and his "An Introduction to Cultural Anthropology," bring us from the generalities of sociology to the more concrete subject of social anthropology. It is here that we realize the hiatus between field work and the generalizations of philosophy and sociology. No ethnologist can doubt the inadequacy of research in the field as a basis for our existing systems of sociology. The two need a closer co-ordination. In the words of Linton,

our attempts at generalizations are, owing to paucity of data, too freely sprinkled with "probably" and "perhaps."

For a generous introduction to the study of African religion and magic, students will read the works of R. R. Marett, and Durkheim's "*Les formes élémentaires de la vie religieuse.*" Lowie's "Primitive Religion" is a companion volume that gives reviews of these philosophies of religion, in terms understandable to students who do not readily follow ingenious philosophical flights.

In the sphere of economics, R. C. Thurnwald's (1932) general treatment of primitive trade and industry is a serviceable textbook. For psychological work, the broad generalization of Lévy-Bruhl should be contrasted with the local studies of M. Mead. Dr. M. Mead, and R. Benedict as well, find such radical psychological differences in social attitudes, even in adjacent communities, that one might well despair of generalizations about human reactions and mentality.

There need be no misunderstanding about the ideals and methods of "functional" study. Reference to A. Lesser (1935), Radcliffe Brown (1935), and Malinowski (1932, 1936b) gives a clear exposition. The word "functional" is perhaps not well chosen, but the term is meant to imply that we are studying with inner vision the dynamic social forces. No longer are we observing objectively, as a biologist studies colonies of animalculae through the microscope. Yet to some of us it would seem that any complete monograph with geographical and historical introduction, and, above all, a coordination of chapters dealing with religious life, social organization, and economics, is a functional study.

The question of diffusion enters so largely into the understanding of present-day Africa that wide reading is necessary to give a silhouette of African cultural relationships.

All the works of F. Graebner and of P. W. Schmidt go to the heart of the problem of the Kulturkreis theory, which Hambly (1934a) attempted to explain in its African bearing. For criticism of Hambly's views, a review by W. Hirschberg (1935) should be read, for it contains references of importance and calls attention to new aspects of the Kulturkreis problem. Frobenius (1933), Lowie (1913), and Hornell (1934) are useful in this connection. Kluckhohn (1936), and H. von Baumann (1934) have made important summaries of this theory. The best textbook for comparative study of diffusion of culture, as expounded by Graebner, Elliot Smith, Wissler and others, is that of R. B. Dixon (1928), "The Building of Cultures."

My survey of Africa began with an account of the fundamental facts of geology, geography, and natural history. These physical and biological factors were described because they are essential for an intelligible study of human life.

The second method of approach was historical, and, for this investigation, discussion relied on the data of archaeology, physical anthropology, the distribution of language families, and the occurrence of types of culture. The aim was to discover a sequence of events which might aid an explanation of the cultures of today. Historical study is not a mere academic exercise; on the contrary, it is a valuable adjunct to a true appreciation of the construction of a social pattern and the functioning of the parts.

The continent was then divided into regions, in each of which a definite mode of life is followed. An attempt was made to show the diversity of cultures, such as those adopted by hunters, camel keepers, pastoral tribes, and agriculturalists. Each type of culture was treated as a living, functioning entity, with many variations, and analysis was made of the contributing factors in each of the cultural patterns.

A section was devoted to an examination of Negro culture with a view to establishing some general aspects before considering the main specific developments. The outlines of social, economic, and spiritual life were examined so as to show their unity and mutual dependence, and this was done without making a selection of some one trait, such as food or sex, as a predominating factor. The pivotal point of a cultural pattern is difficult to select if the culture is complex, and rather than arbitrarily choosing only one factor, it is desirable to demonstrate the mutual dependence of the constituent parts. For example, in considering the culture of the Ovimbundu of Angola, one might justifiably select one of several traits as a pivotal point around which a monograph could be written. Agriculture, chieftainship, ancestor worship, or the magical rites of the *ocimbanda* might each serve as a focus for study, but selection of *one* of these factors as primary would be misleading, since they are so closely related in their functions.

A study of the European period began with an account of exploration, assumption of control by European powers, and the partitioning of the African continent. This surveyed to a formulation of problems that have arisen from the continued contact of Europeans and Africans. Questions of health, education, labor, and the service

of ethnology in administration were discussed, with special reference to present difficulties and the probable trend of future events.

My aim, therefore, has been to preserve a well-balanced view, which recognizes the fundamental unity of geography, biology, history, ethnology, and modern problems of European administration. What kind of future investigation will preserve flexibility of method and coordinated research?

THE FUTURE

The text and bibliography have indicated where the gaps in our knowledge lie. In preparing detailed topographical and tribal maps, much cartography remains. Ethnobotany deserves more attention because our knowledge of African food plants and the African pharmacopoeia is incomplete.

In historical work, more numerous and more accurate translations are needed from Arabic and other sources. Egyptologists, together with specialists in Greek, Roman, and Phoenician history should produce a comprehensive volume, showing in detail the influence of these cultures.

Field work in prehistoric archaeology affords an almost unlimited outlet for new enterprise, especially in the central and western regions. Statistics for physical anthropology on both the living subject and on skeletal material are deplorably inadequate, and far more type photographs are needed. No student should enter the field without becoming a competent photographer. Apart from the value of photography in studying physical types, photographs are needed to supplement descriptions of ceremonies and handicrafts.

The chapter on psychology was of necessity brief, and the bibliography of serious psychological studies of dreams, folklore, social life, and individual case records, is a small one. For a student qualified in psychology, with ethnology as a companion subject, there is unlimited scope.

A vast amount of field work remains to be done in recording languages and dialects, and in making a comparative study of these so as to produce adequate linguistic maps. Such research is essential to aid the educationist in preparation of textbooks for Africans.

Study of the culture area concept clearly indicates that far more well-indexed monographs are necessary before the details of culture areas can be filled in. Taking religion, social organization, law, and economics as factors for division, anthropologists should aim at defining types of Negro society more clearly. We know of

physical, linguistic, and cultural differences between Negroes who speak either Bantu or Sudanic languages, and the common foundations of their culture have been summarized, but a clearer concept of subdivisions is required. The phylogenetic relationship between Bantu and Sudanic languages is not clearly worked out, and anthropometric figures are absolutely inadequate for expressing the physical differences between linguistic group of Negroes.

With regard to the fundamentals of Negro culture (section III), a vast amount of concentrated research is needed on marital relations, especially on polygyny and divorce. Full tables of kinship and notes on duties of kindred are surprisingly few. Religion, magic, and witchcraft call for more study. The whole economic system, including land tenure and food production, requires more detailed research. Law in pastoral and agricultural tribes has never been adequately studied.

The practical application of all this knowledge leads to study of specific problems of administration. The theme may be a tribe, a political area, a native village, a Negro colony in a city, or the application of a principle of government, but the aim is the same: anthropology must aid the process of social and political adjustment.

The urgent need is for more field work of all kinds, but a great task of comparing and compiling the facts already available remains to be done; the work of surveying the whole field can be revised repeatedly as new data are acquired. We need far more books of the type prepared by I. Schapera on the Khoisan peoples; such books show the ethnological gains and losses up to date, and they are invaluable as a point of departure for further work of every kind.

For field work, the difficulty of mastering an African language so as to dispense with interpreters is indeed a serious obstacle. But perhaps the demands of those whose work has kept them in Africa for long periods are rather too exacting, so severe, in fact, that ethnological work as we know it today in connection with museum and university expeditions is entirely discouraged. I think there is some fallacy in stressing the value of publishing in the native text. The native script has to be translated, since anthropologists could hardly be expected to keep in touch with a wide field of literature in numerous languages. If the need for translation is admitted, then we have the same kind of distortion that may result from use of an interpreter, because linguistic equivalents for absolutely accurate translation are lacking.

Instead of expecting an anthropologist to be polyglottic, or to spend some years in learning a single language which will be of no service in his next field of work, there might be a possibility of some permanent scheme of training interpreters at educational institutions near the field of research. Or the most promising African pupils might be sent to European or American universities with one object in view, namely, linguistic training and a study of the best possible methods of translation.

Finally, no matter what direction a student may take in his African research, let there be an endeavor to see Africa as a whole, before becoming absorbed in a specific problem or method.

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Abbreviations

- AA American Anthropologist. University of California, Berkeley, Calif.
 AAE Archivio per l'Antropologia e la Etnologia. Florence, Italy.
 AE Ancient Egypt. University College, Gower Street, London.
 AES Africa Española, Revista de Colonización, Industria, Comercio, Intereses Morales y Materiales. Madrid, 1913 to date.
 — Aethiopica. Revue Philologique. Paris. Ed. S. Grébaud.
 AFA Archiv für Anthropologie. Braunschweig.
 AFK Archiv für Kulturgeschichte. Leipzig and Berlin.
 AFR Archiv für Religionswissenschaft. Leipzig.
 — Africa. Journal of the International Institute of African Languages and Cultures. Miss D. G. Brackett, Secretary. Millbank House, 2 Wood Street, London, S. W. 1.
 AI Ars Islamica. University of Michigan and the Detroit Institute of Arts. Ann Arbor, Michigan. Semi-annually.
 AJPA American Journal of Physical Anthropology. Ed., A. Hrdlicka. Smithsonian Institution, Washington, D.C. Quarterly.
 AJS American Journal of Sociology. University of Chicago Press, Chicago.
 AJSL American Journal of Semitic Languages and Literature. University of Chicago Press, Chicago.
 AMCB Annales du Musée du Congo Belge. Tervueren, Brussels.
 AnAn Anthropologischer Anzeiger. Anthropologischen Instituts, Munich.
 ANNM Argeologiese Navorsing van die Nasionale Museum. Bloemfontein, South Africa.
 — Anthropologie. Ed., J. Matiegka and J. Maly. Prague.
 — Anthropos. St. Gabriel-Mödling, Vienna.
 — Antiquity. Ed., O. G. S. Crawford. Nursling, Southampton, England. Quarterly review of Archaeology.
 AO African Observer. 18 Warwick St., Regent Street, London. Monthly review covering all African affairs.
 ASAM Annals of the South African Museum. Cape Town.
 ATM Annals of the Transvaal Museum. Pretoria.
 AW African World, and Cape Cairo Express. London Wall, Salisbury House, London.
 BA Baessler-Archiv. Ed., A. Maas. Königlichen Museums für Völkerkunde, Berlin.
 BAOF Bulletin du Comité d'Etudes Historiques et Scientifiques de l'Afrique Occidentale Française. Gorée.
 BECB Bibliographie Ethnographique du Congo Belge. Brussels, Musée du Congo Belge, 1932. Contains a list of periodicals.
 BELA Bibliotheca Ethnologica Linguistica Africana. Ed., A. Drexel. Innsbruck, Innallee, Austria.
 BIE Bulletin de l'Institut d'Egypte. L'Institut Français d'Archéologie Orientale. Cairo.
 — Biometrika. University College, London.
 BJID Bulletin des Juridictions Indigènes et du Droit Coutumier Congolais (Supplément à la Revue Juridique du Congo Belge). Société d'Etudes Juridiques du Katanga. B. P. 600, Elisabethville, Congo Belge. Published bi-monthly, or whenever there is sufficient material in hand.
 BL'ELO Bibliothèque de l'Ecole des Langues Orientales Vivantes. Librairie Orientaliste, Paul Geuthner. 13 Rue Jacob, Paris, VIe.
 BMNH Bulletin Muséum National d'Histoire Naturelle Paris. 57 Rue Cuvier, Paris, Ve.
 BMSA Bulletins et Mémoires de la Société d'Anthropologie de Paris. Masson et Cie, Libraires de l'Académie de Médecine, Boulevard Saint-Germain.

- BS Bantu Studies. University of Witwatersrand, Johannesburg, South Africa.
- BSAP Bulletins de la Société d'Anthropologie de Paris. 120 Boulevard Saint-Germain, Paris.
- BSGA Bulletin de la Société de Géographie d'Alger et de l'Afrique du Nord. 5, Rue Clouzel. Algiers.
- BSGI Bollettino della Reale Società Geografica Italiana. Rome.
- BSI Bulletin des Séances, Institut Royal Colonial Belge, 7 Place Royale, Brussels. Marcel Hayez, Imprimeur de l'Académie Royale de Belgique, 112 Rue de Louvain, Brussels. Published three times a year.
- BSNG Bulletin de la Société Neuchâteloise de Géographie. Neuchâtel, Switzerland.
- BSOS Bulletin of the School of Oriental Studies. Vandon House, Vandon Street, London, S. W. 1.
- BSSN Bulletin de la Société des Sciences Naturelles au Maroc. Ed., E. Larose, Rue Victor-Cousin, Paris, Ve.
- CAC Crown Agents for the Colonies. Millbank, London, S. W. 1. Publish handbooks and pamphlets on British possessions in Africa.
- Cahiers d'Art, 14 Rue due Dragon, Paris, VIe.
- CIAA Congrès International d'Anthropologie et d'Archéologie Préhistoriques. 120 Boulevard Saint-Germain, Paris, VIe.
- CO Church Overseas. An Anglican review of missionary activities. Church House, Westminster, London, S. W. 1.
- Congo. Ed., Goemaere. 21 Rue de la Limite, Brussels. Monthly.
- DE Das Eingeborenenrecht. Stuttgart.
- EA East Africa. 91 Great Titchfield Street, London, W. 1.
- EtAn Ethnologischer Anzeiger. Ed., M. Heydrich and G. Buschan. Stuttgart.
- Ethnos. Statens Etnografiska Museum. Stockholm.
- FL Folk-Lore. W. Glaisner, 265 High Holborn, London. Quarterly.
- GCR Gold Coast Review. Accra, West Africa.
- GJ Geographical Journal. Royal Geographical Society, London, S. W.
- Globus. Now affiliated. See Petermanns Mitteilungen.
- GR Geographical Review. American Geographical Society, New York.
- GSNI Geographical Section Naval Intelligence Division. Handbooks. Portuguese East Africa, Kenya, Tanganyika, etc. Publishers, H. M. Stationery Office, Kingsway, London.
- HAS Harvard African Studies. Peabody Museum, Harvard University, Cambridge, Mass.
- HB Human Biology. Ed., Raymond Pearl. Baltimore, Md. Quarterly.
- HERE Hastings Encyclopaedia of Religion and Ethics. Ed., J. Hastings, New York and Edinburgh.
- Hesperis. Librairie Laross, 11 Rue Victor-Cousin, Paris. Contains studies of Berbers of Morocco and Algeria.
- HMSO His Majesty's Stationery Office, Kingsway, London. Publishes many reports on education, commerce, social conditions. List on application.
- HS Hakluyt Society. Agent, B. Quaritch, 11 Grafton Street, London, W. 1. Many volumes dealing with early exploration of Africa.
- HU Hamburg University. Abhandlungen des Hamburgischen Kolonial-instituts.
- IAFE Internationales Archiv für Ethnographie. Leiden, Germany.
- IRM International Review of Missions. Oxford University Press, London. Quarterly.
- IRMI Islamic Review and Muslim India. Ed., Khwaja Kamal-Ud-Din, The Mosque, Woking, England. Monthly.
- JAFL Journal of American Folk-Lore. G. E. Stechert and Company, New York, Agents. Quarterly.
- JAI See under JRAI
- JAS Journal of the African Society. Now, Journal of the Royal African Society. Imperial Institute, South Kensington, London, S. W. 7.

- JEA Journal of Egyptian Archaeology. Published by the Egypt Exploration Society, 13 Tavistock Square, London, W. C. 1.
- JEAU Journal East Africa and Uganda Natural History Society. Ed., V. G. L. van Someren. East African Standard, Ltd., London.
- JNH Journal of Negro History. Ed., C. G. Woodson. The Association for the Study of Negro Life and History. Washington, D.C.
- JPEK Jahrbuch für Prähistorische und Ethnographische Kunst. Leipzig, Germany.
- JRAI Journal Royal Anthropological Institute of Great Britain and Ireland. JAI for volumes issued before grant of Royal Charter. 52 Upper Bedford Place, Russel Square, London. The Institute issues "Man," "Occasional Papers," and "Anthropological Notes and Queries," a handbook for use in the field.
- JRAS See under JAS.
- JRD Journal of Race Development. Now, Journal of International Relations, since vol. 9, 1918-19. Ed., George H. Blakeslee and G. Stanley Hall. Clark University, Worcester, Mass.
- JSA Journal de la Société des Africanistes. 61 Rue de Buffon, Paris, Ve.
- JVFE Jahresbericht des Vereins für Erdkunde, zu Dresden. Dresden.
- KO Kongo-Overzee. Tijdschrift voor en over Belgisch Kongo, Ruanda-Urundi en aanpalende Gewesten. Ed., Dr. A. Burssens, 34 Brussel-schesteenw, Melle bij Gent. Bi-monthly.
- KR Kolonial Rundschau. Potsdamerstrasse 97, Berlin, W. 35. Merged with MDS.
- L'AF L'Afrique Française. 21 Rue Cassette, VIe, Paris. Deals with education, ethnology, administration, and commerce.
- L'AI L'Africa Italiana. Bollettino della Società Africana d'Italia, 219 Via Duomo, Naples.
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- LG La Géographie. La Société de Géographie, 10 Avenue d'Iéna, Paris.
- MAAA Memoirs American Anthropological Association. University of California, Berkeley, Calif.
- MAG Mitteilungen der Anthropologischen Gesellschaft in Wien. Vienna.
- Man. Royal Anthropological Institute, 52 Upper Bedford Place, London, W. C. Monthly.
- MDS Mitteilungen aus den Deutschen Schutzgebieten. Ed., Mit Benutzung Amtlicher Quellen herausgegeben von Hans Meyer, Albrecht Penck, Paul Staudinger. Pub. im Kommissionsverlag von E. S. Mittler and Sohn, Berlin, Kochstr. 68-71. Half-yearly.
- MIE Mémoires de l'Institut d'Egypte. E. & R. Schindler, Cairo.
- MJ Museum Journal. University of Pennsylvania Museum. Philadelphia.
- MSAP Mémoires de la Société d'Anthropologie de Paris. 120, Boulevard Saint-Germain, Paris.
- MSFO Mitteilungen des Seminars für Orientalischen Sprachen. Berlin.
- MSSN Mémoires de la Société des Sciences Naturelles du Maroc. Ed., Emile Larose, 11 Rue Victor-Cousin, Paris, Ve.
- MW Moslem World. Missionary Review Publishing Company, Fifth Avenue, New York. A Christian Review of Current Events and Literature. Quarterly.
- Nada. Native Affairs Department. Salisbury, Southern Rhodesia. Annually.
- NAM Neue Allgemeine Missionszeitschrift. Grillparzerstr. 15 Berlin Steglitz.
- Nature. Publishing and Editorial Office, Macmillan and Company, Ltd., St. Martin's Street, London, W. C. 2.

- NF Nigerian Field. The Journal of the Nigerian Field Society. Ed., E. F. G. Haig, Enugu, S. Nigeria. Pub., H. F. and G. Witherby, 326 High Holborn, London, W. C. 1. Quarterly.
- NGM National Geographic Magazine. Washington, D. C. Contains popular, well illustrated articles.
- NPN Northern Provinces News. Government Printing Office. Kaduna, Nigeria. Known locally as *Jarida*, articles in English, Hausa, and Arabic.
- NYB Negro Year Book. Tuskegee Normal and Industrial Institution. Alabama.
- OC Open Court. Open Court Publishing Company, Chicago, U. S. A. Quarterly.
- OE Overseas Education. Oxford University Press. Quarterly.
- OM Outre-Mer, Revue Général de Colonisation. Paris, Libraire Larose, 11 Victor-Cousin.
- PM Petermanns Mitteilungen. Vereinigt mit der Zeitschrift Globus. Gotha, Germany.
- PrM Primitive Man. Bulletin of the Catholic Anthropological Conference. Washington, D. C. Quarterly.
- PRSA Proceedings of the Rhodesian Science Association. Bulawayo. Contains numerous papers on South African Archaeology.
- RAn Revue Anthropologique. Librairie Emile Nourry, 62 Rue des Ecoles, Paris, Ve.
- RAR Revue Archéologique. Ed., E. Pottier et S. Reinach. Librairie, Ernest Leroux, 28 Rue Bonaparte, Paris, VIe.
- RE Revue d'Ethnographie. Ed., R. Dussaud. 28 Rue Bonaparte, Paris.
- REES Revue des Etudes Ethnographiques et Sociologiques. Libraire, Paul Geuthner, 68 Rue Magazin, Paris.
- REI Revue des Etudes Islamique. Formerly Revue du Monde Musulmane. Librairie Orientaliste, Paul Geuthner, 13 Rue Jacob, Paris.
- RES Revue d'Ethnographie et de Sociologie. 28 Rue Bonaparte, Paris, VIe.
- Res Catalogue Royal Empire Society, Catalogues and bibliographies of; see Prostov's Bibliography.
- REVA Rechtsverhältnisse von Eingeborenen Völkern in Afrika und Ozeania. Berlin.
- RHR Revue de l'Histoire des Religions. Libraire, Ernest Leroux, 28 Rue Bonaparte, Paris, VIe.
- RiEt Riksmuseets Etnografiska Avdelning: Smärre Meddelanden. Stockholm, Sweden. See K. G. Lindblom.
- RR Race Relations. Official Journal of the South African Institute of Race Relations. P. O. Box 1176, Johannesburg. Published six times a year.
- RSR Recherches de Science Religieuse. 5 Place Saint François-Xavier, Paris.
- RTS Religious Tract Society. 4 Bouverie St., London, E. C. 4. Issues publications on African Languages.
- SAJS South African Journal of Science. Johannesburg, South Africa. Contains reports of the South African Association for the Advancement of Science.
- SAO South African Outlook. Lovedale, South Africa.
- SLS Sierra Leone Studies. Ed., D. B. Drummond, Government Press, Freetown, Sierra Leone.
- SM Scientific Monthly. Ed., J. McKeen Cattell, The Science Press, Lancaster, Pa.
- SNR Sudan Notes and Records. Wellington House, Buckingham Gate, London, S. W. 1. A publication of the Sudan Government.
- TC Togo-Cameroun. L'Agence Economique des Territoires Africains. 27 Boulevard des Italiens, Paris, IIe. Monthly.
- TMIE Travaux et Mémoires de l'Institut d'Ethnologie. Université de Paris.
- TNR Tanganyika Notes and Records. The Secretariat, Dar es Salam, Tanganyika Territory. Half yearly.

- TRS Transactions of the Royal Society of South Africa. Cape Town. See TSA.
- TSA Transactions South African Philosophical Society. Capetown. Change of name in 1909. See TRS.
- UE United Empire. The Journal of the Royal Empire Society. Ed., E. Salmon. Published by Sir Isaac Pitman and Sons, Ltd., Parker Street, London, W. C. 2. Contains non-technical articles on trade, politics, and education in British Colonies.
- UJ Uganda Journal. Ed., E. F. Twining, M.B.E. Organ of the Uganda Literary and Scientific Society, P. O., Kampala, Uganda. Quarterly. Deals with history, natural history, and ethnography.
- VRS Van Riebeeck Society. Cape Town. London Agent, F. Edwards, 83 High Street, Marylebone, London, W. 1. The Society publishes historical documents and reprints of rare books.
- WAR West African Review. London. Monthly.
- WTRL Wellcome Tropical Research Laboratories Reports. Gordon Memorial College, Khartum. Contains articles on Sudanese and Nilotic Tribes.
- YT Ymer Tidskrift. Stockholm. Svenska Sällskapet för Anthropologi och Geografi.
- ZFAO Zeitschrift für Afrikanischen und Ozeanische Sprache. Berlin.
- ZFE Zeitschrift für Ethnologie. Berlin.
- ZFR Zeitschrift für Rassenkunde. Ed., Prof. Dr. E. Freiherr v. Eickstedt, Breslau 16. Pub., Ferdinand Enke, Stuttgart W. Yearly edition of two volumes of three parts each.
- ZFVR Zeitschrift für Vergleichende Rechtswissenschaft. Stuttgart.

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BY

EUGENE VICTOR PROSTOV

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For key to abbreviations see Bibliography of Periodicals, pp. 728-732.

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GENERAL INDEX

Should be used in conjunction with "Bibliographical Index"

- Aardvark, 62; illus., 66
- Ababda, physical measurements on, 198
- Abbasids, an Arab dynasty, 85
- Abduction, and payment for women, 418
- Abnormalities, of physique, 255, 256
- Abomey, in Dahomey, 683
- Abortion, 432, 692; in Bushman tribe, 338; decline of population as result of, 693; possible increase of, 702
- Abruzzi (Duke of), explorations of, 670
- Abu Bakr, 86
- Abydos, on the Nile, 24; paleoliths of, 106; predynastic graves at, 54
- Abyssinia, 686-687; cattle kept in, 358; cheetahs in, 61; exploration of, 668, 669, 670; gum trees in, 48; horsemen of, illus., 391; horses in, 56; hunters in, 346; initiation rites in, 466; Jews in, 83, 84; languages used in, 301, 306; literature relating to, 687; plateau vegetation, 49; Portuguese exploration in, 653; present government of, 673; Pygmies in, 242; round shields used in, 77; scenery in, illus., 39; slavery in, 535; stone monuments of, 155; water hole in, illus., 53
- Abyssinians, illus., 196
- Acacias, as food for camels, 50, 362; in Kalahari, 329; seeds of, used in tanning, 382; yield gums, 48
- Accouterments, 56; see Camels, Horses, Leather, Oxen
- Accra, maternity home at, 694; railway to Kumasi, 695
- Acculturation, 698-719; methods of study of, 716; see Culture contacts, Migrations
- Acheulean culture, in Europe, 103; at Oldoway, 97; see Stone implements, 99-137
- Achimota College, 706
- Acholi, iron wristlets for fighting used by, 526; war song of, 317
- Adansonia digitata*, baobab tree, 48; see Baobab
- Addax, an antelope, habitat of, 362
- Addis Ababa, railway line from, 687
- Aden, strategic position of, 680
- Administration, assisted by anthropological training, 710-719; in Bechuanaland, 677, see European governments, 672-689; of Europeans in Africa, literature relating to, 717-719; problems of, in E. Africa, literature relating to, 718; problems of Europeans, 690-719
- Adolescence, see Children, Initiation, Puberty
- Adowa, defeat of Italians at, 687
- Adule, ancient sea port, 158
- Adultery, among Bushmen, 338; checked by matrilocal marriage, 413; dangerous effect of, on husband, 644; and difficult confinement, 513; and divorce, 419-424; in dreams, 558; effect of, on fetus, 439; as ground for divorce, 420; among Kababish, 384; laws and punishments of, 513-515; and service in army in Dahomey, 528; among Tuareg, 371
- Adze, used in wood-carving, 614
- Aedes aegypti*, 70
- Aegeans, 81
- Affrits*, Arab beliefs in, 376; beliefs in, among Kababish, 386; in Siwa, 393
- African Association, 669; and exploration, 658
- African buffalo, not domesticated, 58
- Agades, architecture of, 366; center for leather work, 635; remarkable camel journey from, 369; sex morality in, 371
- Agades cross, an ornament, 83
- Agate, Tuareg ornaments of, 364
- Age-grades, 466, 502-506; and cattle-keepers, 359; indicated by shields in Nuer tribe, 467, 522; of warriors, 529
- Aggrey beads, 642
- Agni, marriage customs of, 414
- Agriculture, in Air, 50; in Algeria, 395; ancient terracing and irrigation, 157; considered menial, 356; disdained by cattle-keepers, 349; and European enterprise 672-689; and future research in Africa, 694; and health of king, 554; literature on, 645; neglected by hunters and by Nilotic Negroes, 346, 351; not practiced by Bushmen, 331; religious background of, 398-404; ritual of, 593; of Tanganyika, 679; technique of, 586-588; terraces for, 79; in Tibesti, 374; in Tripolitania, 686; among Tuareg, 366; see Beans, Cereals, Durra, Groundnuts, Maize, Manioc, Millet, Rice, Yams
- Aido Hwedo, serpent deity of Dahomey, 546
- Aims and methods in anthropology, 720-727
- Air (Asben), agriculture in, 50; Jews migrated through, 84; mountains of, 26; rainfall, vegetation, and topography of, 34, 362; Tuareg of, 364-372

- Airplane, used in archaeology, 24, 100
 Air services, London to Africa, 677
 Aka Pygmies, 202; deform their skulls, 208; location of, 206; physical measurements of, 212; see Bambuti, Pygmies
 Akamba, clan system vigorous, 491; dreams of, 582; physical measurements of, 178; size of families of, 418
 Akikuyu, ears mutilated among, 262; herding of sheep and goats by, 595; marriage customs of, 411; murder and purification rights for, 517, 518; physical measurements of, 178; rebirth ceremony of, 458; wire ornaments of, 274
 Akoa Pygmies, location of, 206
 Albert and Albert Edward Nyanza Lakes, explorations of, 21, 663, 670
 Albinism, in crocodiles, 64; in human beings, 255, 256, illus., 257; in sacred crocodile at Ibadan, 567
 Alcohol, 590; little used by Tuareg, 370; Mohammedans prohibit, 387; used by Namib-Bushmen, 332; see Beer, Intoxication, Wine
 Alexander the Great, 82
 Alexander (Lieutenant Boyd), explorations of, 660
 Alexandria, ancient buildings at, 81; Christianity in, 81; Jewish colony in, 84; railway communications, 680; trade of, with Siwa, 393
 Alfalfa grass, from N. Africa, 681
Algaita, 390, 450; illus., 389
 Algeria, conquered by France, 657; French development of, 681; gums from, 48; Jews in, 83; life and customs of Bedouins in, 395; political, commercial, 681; rainfall of, 38; rock engravings in, 140; wheat grown in, 50
 Allah, beliefs in, by Kababish, 386; see Koran, Mohammedanism
 Alloys, 25, 73; see Bronze
 Almeida, Portuguese explorer, 668
Almoravides, Mohammedan sect, 86
 Alms, Mohammedan customs of, 387
 Altar, at Benin, 552; to deities in Dahomey, 563; see Shrine
 Ama, God of Jukun, 546
 Amazons, female fighters of Dahomey, 527
 Ambatch wood, for shields, used by Buduma, 522
 America, influence of, in Liberia, 673; as market for African palm oil, 675; physical characters of Negroes in, 164; plants from, 40; and slave trade, 533-534; and studies in social anthropology, 722-723
 Amharic, an ancient Semitic language, 301, 302, 304, 306
 Amphibia, 64
 Amulets, in mummy swathing, 74; in Tibesti, 373; see Charms, Evil eye, Magic
 Anatomy, and racial differences, 235
 Ancestors, and agriculture, 398-404; bargaining with, 560; cattle sacrificed to, 356; clan system founded by, among Lango, 491; and conduct of Baganda, 566; influence of, over conduct, 565-567; and initiation ceremonies, 464, 466; names of, among Dinka, 564; rank of, among spirits, 561; reincarnation in serpents, 561
 Ancestor worship, 556-564; and ideas of God among Bathonga, 543; among Jukun, 547; summary of points on, 556, 565
 Ancestral spirits, and adultery, 514; within animals, 580; petitioned for rain, 495; and sterility, 438
 Andersson, explorations of, in S. Africa, 666
Andropogon, nutritious grasses, 46
 Angas tribe, cannibalism among, 565; drums of, 451; scanty clothing of, 270; scarification of male, illus., 259; village defenses of, 521; women, illus., 268
 Anglo-Egyptian Sudan, educational experiment in, 709; historical, 680; see Dinka, Nilotic Negroes, Nuer, Shilluk
 Angola, albinos in, 256; ancient stone buildings in, 154; barkcloth made in, 627; beans cultivated in, 41; climate of, 38; communication, products and administration of, 684; cultural changes and literature relating to, 719; diamonds in, 26; dwelling house of, 399; eastern tribes of, described by Holub, 668; explorations of Wissmann in, 665; initiation ceremonies in, 458; locusts eaten in, 70; mapped inadequately, 28; military organizations of Jagas in, 527; missionary and government schools of, 706; ox-carts used in, 56; physical measurements of tribes in, 176; polygyny in, 418; Portuguese enterprise in, 652; python bones used in, 64; raffia palms in, 47; railway communication of, 676; recent explorations of, 664; slavery in, 538; trade system of, 609; wet and dry seasons in, 34
 Angoni, and Zulu warfare, 531
 Animal emblems, in warfare, 531

- Animal husbandry, and future research in Africa, 694
- Animal life, 51-71; and art, 61; Bushman paintings of, 329; and handicraft, 61; preservation of, in parks, 688
- Animals, carved in wood, 616; cults of, and confusion with totemism, 484; hunted by Naron Bushmen, 334; in religion, 60; in rock sculpture, 137-152; sacred, and worshipped, 567; see Clans, Game, Hunting, Totems
- Animism, 585; connected with drums in Ashanti, 321; tests for, in children, 286
- Anklets, 274; of ivory, 635
- Annobon Island, Gulf of Guinea, Spanish possession, 688
- Anopheles mosquito, 70
- Anteaters, 64
- Antelopes, 58-59; a Ba-ila totem, 485; magical use of flesh of, 258; in parkland, 32; in rock engravings, 141, 142; souls of, feared by hunters, 600
- Anthropoid apes, 91-93; see Chimpanzee, Gibbon, Gorilla, Orang-outang, Paleontology
- Anthropology, administration assisted by, 710-719; history of, and future research, 720-727; and native problems, 715
- Anthropometry, 161-226; Bushmen, 212-216; Hottentots, 213, 214; Negroes, 168-170, 173, 176, 178, 179; Nilotic Negroes, 181; Pygmies, 212; Semites, Hamites, Half-Hamites, 198, 199
- Antimony, 262; see Kohl
- Ants, 49; see Termites
- Aniak, 23; cattle not so important as among other Nilotic Negroes, 351
- Anvil, kinds of, 135; legendary, of stone, 643
- Apes, of Africa, 91-93
- Api, elephants tamed at, 54
- Apiculture, 608; see Bees, Hives, Honey
- Apricots, grown in Algeria, 395
- Apron, worn by Bushmen, 330
- Aqueducts, Roman, 80
- Arabia, camels from, 55; culture of, in Africa, 379-397; slaves shipped to, from Abyssinia, 687; Strabo's map shows, 650
- Arabian Nights, 85
- Arabic, 301; dialects various, 301; modern use of, 306; spoken by Kababish, 381; spoken in N. Africa, 393
- Arabs (Bedouin), illus., 378; cooking method of, 367; as culture carriers, 38, 76; east African trade with, 87; as geographers and historians, 52, 87; literature of, 85, 301; music of, 391, 455; as navigators, 651; as observers of Negro social organization, 480; physical measurements on, 190, 198; see Bedouin Arabs; Semitic customs of, 84; of Senussi sect, 369; slave trade of, 534-537; a vigorous population, 691
- Arachis hypogaea*, see Groundnuts
- Archaeology, 91-160; of Carthage, 79; of Congo region and west Africa, 132-136; of east Africa, 118-123; of Egypt, 111; of north Africa, 106-118; of Roman Africa, 81; scope of, 72; of South Africa, 123-133; summary of, 159; technique of, 99-101; of Uganda, 121, 122; of western Sudan, 86, 87; of Zimbabwe, 87-89, 88-90; see Axes, Implements, Stone
- Archaic speech, how preserved, 289
- Architecture, in Agades, 366; Arabian, 85; Byzantine influence on, 83; Mohammedan features of, 392; of N. Africa, illus., 389; of Zimbabwe, 88; see Houses, Stone buildings, Temples
- Area, of Africa, 20
- Ariangulu, hunting tribe of E. Africa, 346
- Aristotle, 23
- Arkenu, oasis in Libya, 374
- Armadillo, 64
- Arm-bands, of leather for warriors, 531; of stone, 73
- Arm-daggers, in Tibesti, 373
- Armlets, of stone, 274; worn by Tuareg, 364
- Armor, of chain mail, 56, 77; formerly used by Kababish, 383; of horsemen, illus., 391; for men and horses, 524
- Arnold (Matthew), and educational aims, 705
- Aromatophora, ancient spice market in E. Africa, 158
- Arrowheads, of flint, 25; of iron among Bushmen, 332; neolithic in Egypt, 73; of stone in South Africa, 124; in W. Africa, 134
- Arrow poison, from juice of liana among Pygmies, 342; literature on, 525
- Arrows, butt only used for pointing, 598; for drawing blood from cattle, 352; magical, of Bushmen, 339; types of release of, 524; of wood for shooting birds, 608; see Bows, Cross-bows
- Art, and handicraft of Negroes, 613-646; and ivory, 52; literature on, 646; Mohammedan forms of, 85, 392; nature of, 624; not well developed among Nilotic Negroes, 553; primitive, 137-152; principles, illus., 625;

- and religious influence in Ashanti, Dahomey, and Nigeria, 553; see Beads, Bronze, Caves, Colors, Engravings, Gourds, Handicrafts, Iron, Rock painting, Sculptures, Weaving, Wood-carving
- Aruwimi River, Pygmies near, illus., 205
- Asben, region in Sahara, 34; see Air
- Ashanti, agricultural deities in, 402; agricultural rites in, 400; barkcloth made and painted in, 270, 627; brass casting in, 630; clans and totems of, 488; cloth made in, 77; drums for signaling in, 448; forests in, 32; gold dust as currency in, 612; grounds for divorce in, 422; handicrafts and ritual, 643; ideas of soul in, 562; initiation rites in, 465; interpretation of dreams in, 580; kinship terms in, 470; law of adultery in, 513; marriage customs of, 412; physical measurements in, 169; political and commercial, 675; pottery of, in early days, 136; priests in, 76; proverbs from, 309; religious system of, 545; several types of marriage in, 415; slavery in, 537; treatment of twins in, 439; use of cowrie shells in, 612; witchcraft in, 572; wood-carving in, 44
- Ashes, for fertilizing ground, 586; mixed with snuff, 590; of plants yield salt, 591; from sacred fire for rubbing war chief, 350; for smearing body, 270
- Asia, cheetahs trained in, 62; junction with Africa, 19; plants from, 40; trade of, with Europe, 651; see Arabs, Culture contacts, India, Migrations, Persia
- Asmara, railway connections with, 686
- Assagais, 526; see Spears, Vakwanyama, Zulu
- Asselar, fossil man near, 116
- Asses, in rock engravings, 141; see Donkeys
- Assuan, railway communication with, 680; reached by Bruce, 668
- Assyria, conquers Egyptians, 78
- Atakpane in Dahomey, 683
- Athara, railway communication with, 680
- Athara River, 23; explored by Baker, 669
- Atheraka, tribal law on murder, 518
- Atiep, guardian spirits of Dinka, 564
- Atlas Mountains, and rainfall, 38; residual fauna in, 31
- Attitudes, 481; and kinship system, 476; in polygynous family, 478; see Joking relationship, Mother-in-law, Uncle
- Auderass in Air, agriculture of, 50
- Auen Bushmen, physical measurements of, 214-216; stature of, 213; treat snake bite, 339
- Aurès Mountains, Bedouin life near, 395
- Aurignacian culture, in Europe, 103; in Kenya, 97; migration of, in north Africa, 129; types of implements, 126; in Uganda, 121; see Stone implements, 99-137
- Australopithecus, 92, 94
- Automobiles, for crossing Sahara, 681
- Aves, see Birds
- Axes, from Cameroons, 135; of chipped stone, 25; from Congo region, 133; from south Africa, 125; used in wood-carving, 614; as weapons of Wahehe, 529; see Archaeology, Stone implements, 99-137.
- Azande, blood brotherhood of, 493; homosexual customs of, 427; physical measurements of, 217; witchcraft among, 571
- Azanian culture, in E. Africa, 158
- Azilian period, 103
- Azilian-Tardenoisian culture, 106
- Bab-el-Mandeb Strait, 19; strategic importance of, 686
- Babemba, and matrilineal conditions, 412
- Babinga Pygmies, location of, 206
- Babira, physical measurements of, 173
- Baboons, and folklore, 91; secret society of, 500
- Babunda, teeth mutilated, 262
- Baby, carried in cloak, 330; see Children
- Bacwa Pygmies, location of, 206
- Badarian stone culture, 111
- Baganda, barkcloth made by, 270; clan system of, described, 485; paint barkcloth, 627; physical measurements of, 178; present child to moon, 437; rites of sacred kings among, 554; totemic system and clans of, 485; tribal movements of, 245; types of canoes used by, 604
- Bagesu, ceremonial cannibalism of, 564
- Baggara, cattle customs of, 358
- Baghirmi, explored by Nachtigal, 656; physical measurements of inhabitants, 170
- Bags, of hide for carrying infants, 635; of leather, 635; of string used by Bushmen, 331
- Bahima, brother and sister marriage among, 75
- Ba-ila, administrative divisions of, 496; age-grades of, 505; blacksmith's work among, 643; as cattle-keepers, 354;

- family life of, 476; kinship terms of, 470; laws of inheritance of, 512; military system of, 532; and poison ordeal, 507; punishment for murder, 517; totemic clans of, 485; visited by Holub, 668
- Bailundu, house with painted walls, 399
- Bait, used in fishing, 603
- Baker (Sir Samuel), explorations of, 669
- Bakondjo, physical measurements of, 173
- Bakongo, 516; albinos among, 255; calendar of, 592; clan organization of, 485; inheritance of property among, 512; and laws of theft, 515; meaning of word "family" among, 479; sexual morality of, 411
- Balante, many foods of, 586; nasal index of, 168
- Balobedu, ceremonial use of beer among, 590
- Baluba, religious ideas of, 555
- Baku, on Niger, visited by Mungo Park, 659
- Bambala, blacksmith's hammer sacred, 643
- Bambara, descent reckoned through females, 480
- Bambata Cave, excavated, 127, 130; sequence of paintings in, 150
- Bamboo palm, 41
- Bambuti Pygmies, 209; and Bantu Negroes, 341; illus., 207, 343, 344
- Bamum, writing of, 308
- Banana tribe, measurements of, 170
- Bananas, 40; exported from Ashanti, 675; in Kufra, 375; leaves of, used for thatch, 346; many uses of, 42; as totems in Liberia, 487
- Bang, narcotic in N. Africa, taken as pills, 394; see Narcotics
- Bangala, blood brotherhood among, 493; give potions to hunting dogs, 600; physical measurements of, 173; sexual morality of, 427; system of counting, 612
- Bangles, of glass, 634; of gold, 89
- Bangweolo Lake, and explorations of Livingstone, 667; iron ore near, 643
- Bantu, languages, 296-299; migrations in S. Africa, 71, 247; see Table of Contents for detailed list of subjects under Culture areas, Languages, Physical anthropology
- Banyankole, cattle customs of, 349; polyandry among, 417; wife-lending among, 424
- Banyanzi, and cannibalism, 564
- Baobab trees, 40; a Ba-ila totem, 485; in Kalahari, 329; many uses of, 48
- Bapedi, head shaving of, 370; sacred fire of, 359; twins killed among, 434
- Baraka, Kababish believe in, 386; spiritual power of, 376
- Barbary sheep, in Air, 362
- Barbers, itinerant, 392
- Bari, illus., 182; initiation of girls among, 467; physical measurements of, 181; secret society of, 501
- Bark, of baobab, how used, 48; canoe of, in Angola, illus., 605; for canoes, 604; cloth, for boys newly initiated, 460; cloth, ceremonial use of, 643; cloth, as clothing, 270, 627; cloth, made by Otter clan among Baganda, 486; for houses of Bushmen, 330; lasso used in a game, 444; for making beehives, 608; rope, as a bad omen, 583; of trees smeared with drugs, 402; used as a fishing line, 603; used in house building, 620; various uses of, 626-627; see Sasswood
- Barley, 50; in Kufra, 375
- Barotse, wood-carving of, 616
- Barrenness, and adultery, 514; and dreams, 582; gift of another wife, 418; as ground for divorce, 420; how caused, 462; among Valenge, 438; see Demography, Divorce, Fecundity, Sterility
- Barter, in Angola, 609
- Barth, explorations of, 655
- Bary (Edwin von), explorations of, 656
- Baskets, 46; of ancient Egypt, 639; antiquity of, 77; covered with cowrie shells, 642; for divination, 575, 580; of fiber, 42; for fishing, 67, 602; grain stored in, among Vakwanyama, 587; made by Kababish, 382; made in Kufra, 375; as measures of capacity, 613; as rattles, 452; used in building up pottery, 632; see Dyes, Weaving
- Basoko, physical measurements of, 173
- Bastinado, in N. Africa, 394
- Basua Pygmies, 206
- Basuto Highlands, wheat grown in, 50
- Basutoland, maize cultivated in, 44; political, 677
- Bataung tribe, and stone building, 157
- Batembo Pygmies, location of, 206
- Batetela, cephalic index of, 173
- Bathonga, agricultural rites of, 402; educational possibilities of, 706; gods of, 543; maternal and paternal gods of, 477; military system from Zulu, 529; physical measurements of, 176;

- pregnancy customs of, 436; present child to moon, 437; and Zulu warfare, 531
- Bats, 62; folklore story of, 312
- Battell (Andrew), travels of, 653
- Batwa Pygmies, described, 208, 242
- Bauchi Plateau, early exploration of, 660; iron wristlets found on, 526; penis cover worn, 270; stone circles on, 153; stone implements of, 135; tin mining region of, 676; tribes of, resist Mohammedanism, 86
- Bauxite, mined in Ashanti, 675
- Bavenda, as cattle-keepers, 354; ceremonial slaughter of cattle by, 594; chief sacred among, 555; dislike of twins among, 434; divorce proceedings of, 421; ideas of God among, 544; marriage customs of, 411; physical measurements of, 176; present child to moon, 437; shoot fish with bow, 603
- Baya Seyarum, Buduma village on shore of Lake Chad, 26
- Bazaars, in Mohammedan Africa, 390
- Beads, aggrey beads, 642; in ancient Egypt, 73; made by Negroes, 634; of ostrich-egg-shell disks, 68, 151, illus., 223; of various kinds, 642; at Zimbabwe, 89
- Beadwork, gourds and stools covered with, illus., 640, 641; ornament for Bushwomen, 330
- Beans, eaten by Ovimbundu, 588; introduced into Africa, 41
- Bears, 60
- Bechuana, and Robert Moffat, 666; twins killed by, 434
- Bechuanaland, customs relating to cattle in, 356; Dutch conquest of, 71; political, 677; stone implements in, 126
- Bedouin Arabs, culture of, 379-397; illus., 185-187, 191, 192, 378; in Libya, 375; status of slaves among, 536; of Tunisia, 394; type of family control among, 370
- Beds, used by Tuareg, 366
- Beehive, in Angola, illus., 605; placed in trees, 347
- Beer, brewing by Kababish, methods of, 44, 383, 590-591; ceremonial drinking of, 496; ceremonially used by hunters, 590; drinking on conclusion of war, 530; drinking at dance, 447; given to newly born child, 432; taken after initiation, 459, 467; see Intoxication, Wine
- Bees, in Nigeria, 609; among Ovimbundu, 608; see Hives, Honey
- Behavior, patterns of, in kinship systems, 477; see Psychology
- Beira, 88, 678; railway center, 676, 685
- Beja, resemblances to Kababish, 380
- Bekwi Pygmies, location of, 206
- Belgian Congo, animal life surveyed in, 52; blood group tests in, 239; copper in, 25; elephants tamed in, 54; gazetteer of tribes in, 28; Harvard expedition to, 71; home of Okapi, 59; measurements of tribes in, 172-174; Pygmies in, 341-346; railway communications of, 676, 684; reservation for preserving wild animals, 688; Tumbian culture in, 122
- Belgium, African possessions of, 684; and exploration of Congo, 663; regulations for African laborers by, 697
- Bellows, 629, 630; ceremonial treatment of, 643
- Bells, of bronze, 630; for decorating cattle, 354
- Belts, of Okapi skin, 59
- Benedetto Dei, visited Timbuktu, 654
- Benghazi, camel caravan from, 686
- Benguela, founding of, 652; highlands of Angola, home of Ovimbundu, 356; railway, 676, 685; visited by Cameron, 668
- Beni Amer, language of, 301; physical measurements on, 198; physique like that of ancient Egyptians, 249
- Beni Hilla Arab invasion, 85
- Benin, bronze casting at, 630; catfish designs of, 67; early visits of explorers in, 658; human sacrifice in, 552; see Bini
- Benue, 242; steamers on, 676; tributary of Niger, 675
- Berberines, speak Sudanic language, 300
- Berbers, and Carthage, 79; culture of, 393-397; defeat Arabs, 86; have Hamitic language, 299; life and customs of, 396; method of cooking of, 367; physical measurements on, 198; and Roman conquest, 82; speech of, in Tibesti, 372; stone implements of, 119; a vigorous population, 691; see Hamites (northern), Kabyles
- Best friend, 494
- Bestiality, 426
- Betrothal, among Kababish, 386, among Negroes, 409-416, see Courtship, Marriage
- Beverages, see Banana, Beer, Maize, Palms, Water, Wells, Wine
- Bible, translated into Sechuana, 666; see New Testament, Old Testament

- Biblical history, and Jews, 83; of the Nile, 22
- Bibliographies, of author's names, 733-835; of periodicals, 728-732; of political areas, 836-838; of sources for studying Africa, 840-866
- Bida, brass work at, illus., 631; gourds ornamented at, 620; stools elaborately carved at, 620
- Bidyogo, measurements of, 168
- Bihéans, caravans conducted by, 610, 652
- Bilateral descent among Ovimbundu, 477
- Bilma, center of salt trade, 26, 369; early exploration of, 655; oasis in, 82; prostitutes in, 371
- Binger (Colonel), and W. African exploration, 658
- Bingerville, on Ivory Coast, 683
- Bini, age-grades of, 505; secret societies of, 501
- Biram, a Mohammedan feast, 394
- Birds, of Africa, catch spirits of dead, 557; closely studied by Ovimbundu, 606; cries imitated by Bushmen, 334; general information, 68; killed with wooden arrows, 600; of Sahara, 362; shot with cross-bow, 602; shot with wooden arrows, 608
- Birifor, clans of, 490
- Birth, control, future of, in Africa, 702; customs, 429-442; see Childhood
- Bisharin, physical measurements on, 198
- Blacksmiths, 25, 628-630; and archaic languages, 288; initiation of, among Ovimbundu, 642; itinerant in Kordofan, 383; not among Pygmies and Bushmen, 342; Ogun the God of, 547; among Tuareg, 367
- Bladder, and parasitic worms, 70
- Blankets, of wool and hair among Kababish, 382; woven by Kabyles, illus., 639
- Blantyre, 678; Nyasaland, railway center, 685
- Bleeding of patients, 392; illus., 577; see Cupping
- Blemmeys, ancient tribe of, 81
- Blessings, from ancestors, 356; see Ancestor worship, Ancestors
- Blood, of cattle drunk, 352; of cattle used in ordeal, 352; of chicken ceremonially used for washing king, 578; of chicken sprinkled on pounding rock, 588; drunk for blood brotherhood, 493; drunk by warriors, 529; of females transmitted, 471; fertilization of soil with, 402; poured over tools, 644; smeared on weapons of hunter, 598; soul contained in, 558; used in secret societies, 499; used in trial by ordeal, 354
- Blood brotherhood, 493-495; by drinking blood, 354; and kola nuts, 48; Semitic form of, 387; and feuds, 493
- Blood feuds, among Bushmen, 337; among Jukun, 481; among Kababish, 384; in Libya, 377; in Tibesti, 373; in Tunisia, 394
- Blood groups, and race, 237-240
- Blood in the head, disease of camels, 375
- Blood money, paid by murderer among Ovimbundu, 515; paid in salt, 591; and revenge, 515
- Blue Nile, 23, 680; exploration of, 668
- Boas, constrictor snakes, 64
- Boers, 71; farms of, in Angola, 684
- Bolewa girl, ornamentation of, illus., 269
- Bomako railway center, 683
- Bombax tree, for making canoes, 604
- Bondu, a secret society, 500
- Bones, of dead king preserved, 549, see Sacred kings; of enemy as trophies, 528; human, mixed in medicine, 274; implements of, in South Africa, 124; of king worshipped among Baganda, 554; made into whistles, 452; used for arrow-tips among Bushmen, 333; used in divination, 575; see Paleontology
- Bongo, an antelope, soul of much feared, 600; tribe, described by Schweinfurth, 670
- Boni, hunting tribe of east Africa, 346
- Book of the dead, 74
- Borassus flabellifer* (*Borassus palm*), 44, 45, 46
- Bori*, types of dancing, 392
- Borku, and explorations of Nachtigal, 656; rock engravings in, 142
- Bornu, early exploration of, 660; horsemen use large spears in, 526; horses bred in, 56; Italian exploration of, 670
- Boskop skull, 96
- Bosporus, site of Byzantium, 83
- Botany, 38-51; and archaeology, 100; need for ethnobotany, 50
- Bottego, explorations of, 670
- Bottles, melted to make beads, 634
- Bouake, railway center of Ivory Coast, 683
- Bouchers*, stone implements of South Africa, 125
- Bovidae*, 59; see Antelopes

- Bowls, of soapstone, 88; of wood, Tuareg, 368
- Bows, in boy's game, 444; distribution of types in Africa, 524; literature on African types of, 600; as musical instruments, 452; as parrying weapons among Dinka, 522; in rock sculpture, 137, 143; sacred house for, among Ovimbundu, 495; sigmoid form of, 77; symbol of matrimony among Bushmen, 337; types of used by Bushmen, 333; in use by Bushmen, illus., 331; in use by Ovimbundu, illus., 597; see Arrows, Crossbows, Hunting, Poison, Warfare
- Boxes, for kola nuts, illus., 618
- Bracelets, 274; of ivory, 635
- Brain weight and intelligence, 277
- Brancker (Sir Sefton), and air services, 677
- Branding, of camels, 377; of camels among Kababish, 382; of slaves, 534
- Brass, in accouterments, 56; beaten into vessels, 77; casting of, 630; oriental influence on, 76; rods, as currency, 612; used as weights in Ashanti, 612
- Brazil, plants from, 40; slaves exported to, 538
- Brazza, Count de, explorations of, 664
- Bread, made by Kababish, 383
- Breadfruit, see Jackfruit
- Bride, Bushmen fight to take, 337; forcibly taken among Dinka, 416; forcibly taken from home, 374; Ovimbundu customs of, 409; see Betrothal, Courtship, Marriage
- Bridegroom, works for parents-in-law, 411-413; see Betrothal, Courtship, Marriage, Matriarchy
- Bridges, badly constructed in Angola, 684; modern engineering of, 676, 680
- Britain, African possession of, 674-681; and labor laws for Africans, 697; policy of, toward Africans, 699
- British, conquer Nigeria, 56; Museum, stone implements in, 103
- Broken Hill, a mining center of South Africa, 92, 678
- Bronze, age and stone monuments, 152; an alloy, 25, 77, 79; in ancient Egypt, 73; casting of, 630; plaques from Benin, 67; at Zimbabwe, 89
- Brothers, Negro use of term, 482; share one wife, 350; see Kinship
- Browne, and exploration of Nile, 668
- Bruce, and exploration of Nile, 668
- Brue, French explorer, 658
- Bubalus antiquus*, in rock engravings, 138
- Bubalus bainii*, in rock engravings, 151
- Bubo maculosus*, sacred owl, 68
- Buchanan, and Saharan exploration, 661
- Buchu*, body powder used by Bushmen, 331
- Buduma, described by Boyd Alexander, 660; harpoons used by, 77, 603; kind of shield used by, 522; stature of, 169
- Buffalo, African, never domesticated, 58; soul of, regarded as harmless, 600
- Buffoons, in bazaars, 390
- Buildings, of stone at Zimbabwe, 88; elsewhere, 152-157; see Archaeology, Stone
- Bukere, inventor of Vai script, 308
- Buku, a God in Togoland, 545
- Bukuma, railway communications of, 676
- Bulawayo, stone implements near, 126
- Bull-roarers, 453-454
- Bulls, carry loads, 358; killed for warriors, 531; as sacrifice for rain in Bushman ceremony, 339; treatment of, in N. E. Africa, 349
- Bumba, sacred being of Bushongo, 555
- Burchell, exploration, in S. Africa, 666
- Burckhardt, exploration of, 669; exploration of Nile, 668
- Burial, African methods of, 584; of ancient Egyptians, 249; among Bushmen, 337; chambers, of Jukun, 76; in eastern Kalahari, 339; among Kababish, 386; not among Dorobo, 347; of pregnant woman, 433, 439; among the Suk, 352; in Tibesti, 374; among Tuareg, 370; see Dead, Funeral, Graves
- Burning, of designs on gourds, 620; see Branding
- Burton, travels of, 669
- Busa rapids on the Niger, 24; Mungo Park was drowned at, 659
- Bushmen, 34, 329-340; animal life of, 61; art and N. African rock engravings of, 142; blood group tests of, 239; and Boskop type, 96; compared with Hottentots, 242-243; compared with Pygmies, 210; culture of, summarized, 340; cut off finger joints, 266; decline in number, 690; 693; languages of, 291-293; magical scarification of, 258; material culture of, 330; measurements of, 213-216; migration of, 240; ostrich eggs used by, 68; paintings of, and those of Spain, 129; paintings and engravings of, 147-148; paintings show hunters' disguise, 334; practice circumcision

- and clitoridectomy, 333; rock engravings and Libyan styles of, 143; rock paintings and engravings of, 146; skeletons of, 96; social and religious life of, 334-340; stone implements of, 126; twins killed by, 434; see Caves, Hunting, Paintings, Rock engravings
- Bushongo, measurements of, 173; psychology of, 703; raffia weaving of, 42, 270; and sacred kings, 555; throwing knives of, 526; tribal movements of, 245; wood-carving of, 616
- Bustards, north of Lake Chad, 362
- Butcher, official position and ceremonies of, among Bavenda, 594
- Butter, churned by Banyankole women, 349; in Libyan oases, 375; made by Fulani, 358; made by Kababish, 383; made by Tuareg, 367; shea-butter tree, 46
- Butyrospermum parkii*, shea-butter tree, 46
- Byzantium, 83
- Cactus, chewed by fanatics, 393
- Caffeine, in kola nuts, 48
- Caillé, explorations of, 655
- Cairo, railway communications of, 680; rise of Nile at, 23; visited by Burckhardt, 669
- Calendar, 76; and agricultural operations, 398-404, 592; literature on, 645; Mohammedan, 390; unlucky days among Kababish, 386
- Caliphs of Egypt, 85
- Camel bactrianus*, 368; *dromedarius*, 368
- Camels, 34; absent from sculptures, 138; breeds of, in Sahara, 368; caravans of, in eastern Sudan, 680; care of, among Kababish, 380-387; care of, in Libya, 375; culture depending on, 368-378; culture depending on, summary of traits, 377; as dowry in Tibesti, 374; general treatment of, 368-369; historical notes on, 54; kept by Bedouins, 394; leather trappings for, 635; in rock engravings, 141, 143; in South West Africa, 55; in Tibesti, 373-375; for transport in Abyssinia, 687; of Tuareg, illus., 363
- Cameron, explorations of, 668
- Cameroons, 44; added to German Empire, 656; administration under mandates, 672; baskets decorated with cowrie shells in, 642; beadwork, illus., 641; brass work in, 632; climbing a palm in, 47; cross-bows used in, 600; forest in, 32; houses of, illus., 399; literature on diseases in, 694; magician's head-dress in, illus., 581; measurements of tribes in, 165-171; raffia weaving, illus., 638; rainfall in, 34; termites in, 49; wood-carving well developed in, 616; writing of, 308
- Campbell, explorations of in S. Africa, 666
- Campaignian culture, 106
- Camwood powder, 260
- Canary Islands, successive inhabitants of, 116-118
- Candles, burned as an offering, 395; from copra, 42
- Cangamba, in east Angola, initiation at, 460; sickness cured at, 577
- Cannibalism, 531; and ancestor worship, 564-565; forbidden by Mohammed, 387; of head-hunters, 532; king eating heart of his predecessor, 551; not among Nilotic Negroes, 553; in secret society, 61; slaves eaten, 539; by warriors, 532
- Canoes, of reeds, 77; of reeds on Lake Chad, 604; songs for paddlers, 316; various types of, and Indonesian influence on construction, 604; see Bark, Dugouts, Fishing
- Cape, Colony, maize grown in, 44, political, 677; of Good Hope, Diaz sailed around, 651; Town, railway communication of, 676; Verde Islands, discovered, 651
- Cape to Cairo Railway, 677
- Capello and Ivens, explorations of, 664
- Capsian culture, divisions and origin of, 104, 114; see Stone implements, 99-137, particularly, 106-118
- Caravans, from ancient Egypt, 74; arriving in Nigerian markets, 610; and boys' games, 444; of camels in Eastern Sudan, 680; for salt, 26; of slaves in Angola, 538; of slaves in Libya, 536; of Tibesti, 373; trade with bazaars in North and West Africa, 390; trade, coils of tobacco, 588; trade from Kufra, 375; trade in Sahara, 361; trade in Tripolitania, 395; from Tuggurt, 681
- Carica papaya*, 41
- Carnacian culture, 106
- Carnivorous animals, 60
- Carriers, loads and distance traveled, 613
- Carthaginians, influence of, in Nigeria, 137; leader of, 54; and silent trade, 650; and stone monuments, 153; tamed elephants, 54
- Cartography, 28, 29, 651; see Maps
- Carts, drawn by elephants, 54; drawn by oxen, 56

- Casablanca, treatment of ophthalmic diseases at, 683
- Casati, explorations of, 670
- Cassava, see Manioc
- Cassinga, Angola, Bushmen from, illus., 211
- Castes, see Blacksmiths, Hunting, Social status
- Casting, of metal; 630, see Brass, Bronze, Jewelry, Silver
- Castor-oil plant, 40
- Castration, for adultery, 514; of slaves, 536
- Cataracts, on main rivers, 24
- Caterpillars, made into soup among Ovimbundu, 608
- Catfish, sacred, 67; shocks from, to treat rheumatism, 576
- Cats, domesticated, 58; among Tuareg, 368; wildcats in Air, 362; worshipped in ancient Egypt, 58
- Cattle, in Abyssinia, 687; Angolan types of, illus., 355; and Banyankole, 350; blacksmiths unlucky with, 643; breeds of, 56; brought to life by magical water, 502; ceremonially killed, 354, among Bavenda, 594; and climate, 34; culture, 349-360; diseases of, in Bechuanaland, 677; as dowry, 416, see *Lobola*; dreamed of, 582; on Egyptian murals, 54; inheritance of, among Fulani, 358; and insect pests, 70; kept by agricultural Negroes, 407; kept by Kababish, 381; and laws of Nilotic Negroes, 351; medicines for, 356; not for transport, 354; in parkland zone, 32; reared in Nyasaland, 678; relation of, to law and punishment, 519; in rock engravings, 143; and sacred kings among Baganda, 554; sacred, among Semites, 387; salt given to, 591; summary of customs relating to, 359-360; used in transport, 56, 358; and zones of vegetation, 327; see Goats, Sheep
- Caucasus region, and Aurignacian man, 132
- Cavally River, Liberia, proverbs from region of, 309
- Cavalry, 55; see Armor, Horses, Mail
- Cavazzi, early missionary, 652
- Caves, Bushman paintings in, 146; and engravings in Spain, 142; European paintings in, 103; excavated at Bambata, 127, near Port Elizabeth, 124, in South Africa, 96, in Kenya, 97, in Matopo Hills, 126; paintings of, in W. Africa, 140; and stone implements of Uganda, 122; used by Bushmen, 330
- Cecchi, explorations of, 670
- Celts, of W. Africa, 134
- Cement, not used in Negro buildings, 156
- Census returns, 692; see Demography, Population
- Centurions, early exploration of, 23
- Cephalic index and race, 233; see Anthropometry for detailed references to tables of indices
- Cereals, European types of, 50; see Barley, Wheat
- Cerulli, compendium of Italian discoveries, 670
- Cervidae*, deer, 59
- Cervus dama*, 59
- Cervus elaphus barbarus*, 59
- Chad, animal life near, 362; Colony, French political unit, 683; and communication with N. Africa, 682; and early exploration, 655; and French exploration, 657; Italian schemes concerning, 686; Lake, barley near, 50; Lake, Buduma tribe on, 77; Lake, and natron, 26; Lake, Rabey's army near, 55; Lake, rice grown near, 42; measurements of tribes near, 169; throwing knives used near, 526
- Chaetochloa*, a genus of millets, 46
- Chagga, see Wachagga
- Chain mail, 524
- Chaka, discipline inflicted by, 530; and weapons of Zulu, 526
- Chanoine, French exploration by, 657
- Chapman, explorations of, in S. Africa, 666
- Charcoal, for blacksmith's fire, 629; in making magical concoction, 610; in medicines, 274; timbers for, 606
- Chariots, in Egypt, 55
- Charms, 274; kinds of, and beliefs in, among Negroes, 578; literature on, 585; in Siwa, 393; in Tibesti, 373; used in hunting by Bushmen, 334; used by Pygmies, 345; used in warfare, 522; worn by Kababish, 386
- Chastity, 410-411; see Adultery, Betrothal
- Cheese, made by Tuareg, 367
- Cheetah, trained to hunt, 61
- Cheiroptera (Bats), 62, 312
- Chellean culture, and Oldoway, 97; implements, and Kanjera skulls, 98; Period, 19, 103; see Stone implements, 99-137
- Chewing tobacco, 590; see Narcotics, Snuff, Tobacco
- Chickens, see Poultry
- Chido (Shido), sky God of Jukun, 546

- Chiefs**, animal emblems of, 60; of Bushmen, 336; functions of, among Ovimbundu, 495-496; head of, wrapped in oxide, 356; among Kababish, 383; and legal system, 509; obligations of, to people, 509; power of, resisted by secret societies, 500; of Pygmies, 205; and supply of labor to Europeans, 696; of Tuareg, 370; of village, and divorce proceedings among Ovimbundu, 420; see Kings, Law, Sacred kings
Chieftainship, literature relating to, 718; reckoned in male line, 481
Childbirth, among Tuareg, 371; see Abortion, Birth, Infanticide
Children, adopted, 438, 477, by Jagas, 527; collect food substances, 608; custody of, after divorce, 420; death rate of, high among Tuareg, 371; early betrothal of, 412; education of, 429-468; games and songs for, 456; minds of, and primitive man, 286; necessary for social status, 429; in polyandrous family, 417; treatment of, by Kababish, 385; of Tuareg, 371; work of, in building houses, 620
Chimpanzee, 91
China, ivory from Africa in, 54; and labor in mines, 26; and porcelain at Zimbabwe, 89; rice from, 40; stage plays and puppets used in, 320
Chocolate, family of trees, 48
Christian era, 55
Christianity, in Abyssinia, 81, 688; and African morality, 707; in Egypt, 81; introduced into Abyssinia, 686; and Portuguese navigators, 652; see Missionary enterprise, Missions
Chronology, 72; of prehistory, 104; of rock art in N. Africa, 141; of rock engravings in N. Africa, 143
Church Missionary Society, and explorations, 670
Churning, see Butter
Cicatrization, and admission to age-grades, 505; and blood brotherhood, 493; of girls in Bari tribe, 467; of Nuer boys, 467; see Scarification
Cigarettes, offered to guests, 377
Cinema, educational value of, in Africa, 708
Circumcision, and age-grades, 503-506; of Bushmen, 333; of Kababish, 385; knives for, 392; and military service, 529; rite of, among Vachokwe tribe, 458; in Tibesti, 374; of Tuareg, 370; see Clitoridectomy, Initiation
Cire-perdu process, 632; see Benin, Brass, Bronze, Silver
Citroën cars, and desert travel, 681
Civet cat, commercial use of, 62
Civilization, and minerals, 24-26
Clans, 484-493; animal emblems of, 61; brothers of, share wife, 417; ceremonial cannibalism in, 565; communal responsibility of, 510; founded by ancestors, 564; functions of, at Mohammedan festivals, 493; hereditary right of, to occupations, 632; and joking relationship, 492; and kinship terms of, 471; and marks of ownership on cattle, 352; and mutual aid of, 485; among Pygmies, 342; responsibility of, for member's crime, 517
Clapperton, explorations of, 655
Classificatory system of relationships, 485-493; see Clans, Kinship, Totems
Clay, for furnace in glass-making, 634; made by women for plastering walls, 620; not to be taken from river on Friday, 644; for nozzle of bellows, 629; for ornamenting gourds, 620; for painting body, 439, 462, 466; prepared by women for making pottery, 632
Cleavers, 134; see Axes, Celts
Cleopatra, 80
Clicks, in Bushman language, 291-293; used by Zulus, 298; see Sandawe
Climate, 20-22, 30-38; and archaeology, 30; changes of, in E. Africa, 119, in Europe, 104, in N. Africa, 115; and cultural changes, 30; of Kalahari Desert, 329; of Kordofan, 381; and language, 290; and migration of animals, 59; and population, 31; and vegetation, 41-50; see Culture areas
Clitoridectomy, on Efik girls, 466; by Kababish, 385; practiced by Bushmen, 333; in Tibesti, 374
Cloaks, of fur, 270; of fur for Bushmen, 330; of sheepskin in Tibesti, 373
Clothing, 270-274; absence of, 270; of bark cloth, 627; of Bushmen, 330; of hide, illus., 353; illus., 272-274; literature on, 646; made by Tuareg males, 368; map showing distribution of kinds of, 274; of Pygmies, 342; stamped in Ashanti, 77; in Tibesti, 373; of Tuareg, 364; see Bark, Cotton, Hides, Raffia, Weaving
Cloves, exported from Zanzibar, 679
Clubs, ornamental among Ovimbundu, illus., 619; stone headed, 135; of Vachokwe, illus., 625; of Vakwanyama, illus., 525
Coast line of Africa, 20; dryness of some parts of, 34, 38

- Cobra, spits venom, 64
- Cock, used ceremonially, 320
- Cocoa, exported from Ashanti, 675; future production in Belgian Congo, 684; from Nigeria, 675; in Tanganyika Territory, 679
- Coconut, grown in Tanganyika Territory, 679; from Mozambique, 685; palm yields, 40; tree, and ceremony with umbilical cord, 440
- Cocos nucifera* (coconut palm), 41
- Coffee, 40; from Angola, 685; forbidden by Senussi, 370; future developments in Eritrea, 686; grown in Abyssinia, 687; from Mozambique, 685; purchased by Kababish, 383; some Mohammedans prohibit, 387; in Tanganyika Territory, 679
- Coffin, fastened to a pole, 557; of Ovimbundu, illus., 559
- Cola acuminata*, 48; *vera* 48; see Kola
- Collars, of brass for women, 274
- Collecting of foods by Negroes, 604-609
- Colleges, for Africans in Africa, 706
- Colobus monkey, clan emblem of Baganda, 486
- Colonial office, British, and labor laws for Africans, 697
- Color, bar of Africans by European powers, 699; of cattle in inheritance laws among Fulani, 358; distinguishes cattle, 349; in leather work, 635; painted on walls of house, illus., 399; for painting body, 260; for painting shields, 522; used in cave paintings, 140; used in initiation as body paint in Angola, 462; used in rock paintings, 149; see Bambata, Dyes, Gourds, Henna, Indigo, Kohl, Pigments
- Combs, Vachokwe, illus., 625; of wood in Angola, 616
- Commerce, 609-613
- Communal, hunting, among Ovimbundu, 596; ownership, 337; property, among Pygmies, 342; responsibility, for crime, 509-511
- Communication, 22; see Airplane service, Canoes, Lakes, Physical features, Railways, Rivers, Valleys
- Compensation, see Adultery, Blood money, Law, Murder, Theft
- Conception, 429-432; how to avoid, 462; and kinship system, 472; serpent, a symbol of, 404; see Birth, Child-birth, Physiology
- Concubinage, under Mohammedanism, 390; probable increase if polygyny is abolished, 419
- Conduct, influences affecting, 508; see Age-grades, Education, Kinship, Law, Morality, Religion, Secret societies
- Coney, 60
- Confinement, wife returns to her kin for, 338; see Birth
- Congo, 22, 24; communications of, with N. Africa, 682; cultural zones of, 326; details of French possessions in, 683; educability of natives in, 702-703; exploration of, general, 661-666; and explorations of Schweinfurth, 670; explored by Stanley, 663; measurements of tribes in, 173; method of divination in, 575; military organization, 527; mutilation of teeth in, 262; population of, 32; Portuguese exploration of, 652; Pygmy groups in, 206; raffia weaving in, 42, 636; rice grown in region of, 42; secret societies in, 498; stone implements found, 133; throwing knives in, 526; tribal movements in, 245; tribes much scarified, 260; women wear brass collars, 274; wood-carving of, 44, 616; see Belgian Congo, Kongo
- Conjurers, in bazaars, 390
- Constantinople, (Istanbul) site of Byzantium, 83; taken by Turks, 89
- Continental junctions, in ancient geological periods, 19
- Convolvulaceae, 41
- Cooking, in Algeria, 395; of bananas, 42; among Bedouins, 394; Berber-Arab method of, 394; of Borassus palm fruits, 46; forbidden during menstruation, 437; incompetence as ground for divorce, 420; methods of Ovimbundu, 587-588; salt needed for, 591; special vessels for warriors used in, 532; Tuareg method of, 367; wives take turns in, 419
- Copal, from Belgian Congo, 684
- Copper, 25; as currency, 612; from Cyprus, 79; in Egypt, 73; in S. Africa, 678; used by Badarians, 112; weapons of, from graves of west Africa, 134; at Zimbabwe, 89; see Bronze
- Copra, exported, 42; exported from Ashanti, 675; from Kenya Colony, 679
- Coptic scriptures, 81; writing, 302
- Copts, perform castration, 536
- Coquilhatville, Pygmy groups near, 206
- Cork, from N. Africa, 681; see Bark
- Corn, querns for grinding, 25; see Maize
- Corporal marks, 258-262
- Corpse, dried over fire, 558; prepared for burial among Ovimbundu, 558; questioned, 557; of relative eaten,

- 565; wrapped in bark cloth, 627; see Burial, Cannibalism, Death, Funerals
- Cosmetics, 38; see Henna, Kohl, Paint, Personal ornament, see *Takula*
- Cosmology, of Lambas, 544
- Cottenest (Lieutenant), defeated the Tuareg, 657
- Cotton, 38; countries which supply it to France, 682; future development of, in W. Africa, 682; future production in Belgian Congo, 684; grown in Abyssinia, 687; grown in eastern Sudan, 680; grown in Nigeria, 675; shrub of, 635; spinning and weaving of, 636; winding and weaving, illus., 637, 638; see Dyes, Ginning, Indigo, Looms
- Council house, for men only, 419
- Counting, ability of Ovimbundu, 436; by cutting sticks and knotting cords, 612; literature on, 645; use of fingers and toes, 612
- Coups de poing*, of Somaliland, 119; in Morocco, 112, of S. Africa, 124, of W. Africa, 134; see Axes, Celts
- Courtship, among Bushmen, 337; of Negroes, 409-416
- Cousins, marriage of, among Kababish, 384; marriage of, under Mohammedan law, 474; prohibitions observed by Bakongo, 480; types of marriage between, 470-474
- Couvade, 431
- Towards, punishment of, 530
- Cowrie shells, as charms to give fertility, 578; as counters, 445; as decoration, 499, 550; necklace of, worn in religious rites, 545; as ornaments by Kababish, 382, in Tibesti, 373; still used as currency in Africa, 612; symbol of fertility among Ovimbundu, 430; and symbolic messages, 320; as totem emblems, 485; used by Edo women, 440, in trade, 611
- Crampel, scheme for French colonization by, 665
- Cranial capacity and intelligence, 277
- Cricket, 70; folklore story of, 312; a totem emblem, 485
- Crocodile, carved in ivory, 634; sacred, 64, 489, illus., 569; sacred white, among Yoruba, 567; skin of, as body armor, 524; society, in Sierra Leone, 499; spiritual being transformed into, 568; and trial by ordeal, 507
- Cro-Magnons, in Europe and N. Africa, 114, 115
- Cromerian culture, in Uganda, 122
- Crops, list of, grown by Negroes, 586; magically protected, 394; see Agriculture
- Cross-bows, 600
- Cross-cousins, 474; see Cousins, Kinship
- Crucibles, at Zimbabwe, 89
- Crusaders, 77
- Cucurbita*, 38
- Culture, adjustment, and guide to study of, 328; change of, and climate, 30, 34; contacts with Indonesia, 604, and slavery, 533-540; diffusion of, and literature recommended, 723; heroes, 313, 314; migrations, and stone age in N. Africa, 117; of Morocco analyzed, 396; periods, of stone age in W. Africa, 135; sequences in excavations, 101; and warfare, 533; see Arabs, Archaeology, Culture areas, section II, Egyptians, Greeks, History, Persians, Phoenicians, Romans
- Culture areas, 325-404; agriculture, 398-404; camel keepers, 361-378; future research necessary, 725; hunting, 329-348; pastoral pursuits, 349-360; Semitic and Mohammedan elements of, 379-397
- Cupping, illus., 577
- Cups, of wood among Bakuba, 620
- Currency, copper ingots as, 25; various forms of, 611, 612
- Curriculum, for African schools, 704-710
- Curses, of barrenness, 514; charms against, 274; on enemy, 531, 532; how revoked among Nankanse, 482; on king prevented, 549; of parents on children, 515; pronounced by medicine-men, 578
- Curtains, of fiber, 48
- Cushions, of leather, 635
- Cyphanthropus, 93
- Cyprus, copper from, 79
- Cyrenaica, Italian possession of, 685; Jewish colony in, 84; literature on, 397; a Roman province, 80
- Dagba, manufacture arrow poison ceremonially, 602
- Daggers, of Tuareg, 83
- Dagomba, and joking relationship, 493
- Dahomey, brass casting of, 630; explorations of Major Duncan in, 660; family rites of worship in, 563; firearms for native troops in, 527; forests in, 32; homosexual customs of, 427; importance of kingship in, 550; king kept record of population of, 691;

- military organization of, 527; railways of, political, commercial, 683; religious beliefs in, 545-546; several types of marriage in, 414; some cultural traits of, 76; special cultural developments in, 407; use of cowrie shells in, 611; wood-carving in, 44
- Dakar, administrative center, 683
- Damara, cattle, 56, 595; woman, illus., 267
- Damergu, animal life in, 362
- Danakil, cephalic index of, 199; language is Hamitic, 300
- Dancing, 446-448; of Bushmen, 334; during initiation in Angola, 459; and initiation of girls in Angola, 460; at initiation of hunter, 598; after killing elephant, 600; learned during initiation, 467; in Libya, 377; magical by Pygmies, 345; of rain maker, 578; of Tuareg, 370; and warfare, 531
- Dane guns, 526
- D'Anville, map of, 661
- Dar-es-Salam, 679
- Darfur, camel caravans in, 680; caravan route from, 375; slave caravans of, 536; visited by Browne, 669
- Dates, as food for camels, 50; grown in Siwa, 393; as human food, 50; of N. Africa, 681; palms 40, 48, illus., 43; used by Kababish, 383, in Tibesti, 374, by Tuareg, 367
- De Aar, railway communications, 676
- Dead, cult of, and literature on, 584; dreaming of, 580-582; king, customs observed among Banyankole, 350; left in forest, 347; survive in spirit world, 556-564; see Ancestor cults, Coffin, Corpse, Funeral rites, Graves, Religion, Soul, Spirit, Tombs
- Debts, 539; clan responsibility for, 485; see Domestic slavery, Law, Maternal uncle
- Deer, only in north Africa, 59; see *Cervus*
- Defense, with thornbushes, 528; village palisades for, 496; of villages, 521
- Deforation, 464
- Deformities, 255-266; and infanticide, 439
- Deities, Egyptian, 23; see Ancestor worship, Gods, Religion, Sacred kings
- Demography, 691, 692; see Census
- Demons, beliefs concerning, 376, among Kababish, 386; Mohammedan beliefs in, 392; see Affrits, Bori, Jinns
- Dengit, God of Nilotic Negroes, 553
- Denham, explorations of, 655
- Dental mutilation, see Teeth
- De Rochfort, on French exploration, 657
- Dervishes, 671; defeated at Omdurman, 680
- Descent, names of parents given in, 436; reckoned through females, 471; reckoning of, by Ba-ila, 476, by Tuareg, 372, by Wolofs, 480
- Deserts, 36, 37; animal life in, 52; heat of, 21; of Libya described, 375; monasteries of, 81; Pliocene desert, 37, illus., 36; types of, 32, 361
- Dewey (John), and educational aims, 705
- Diabase, implements of, 133
- Diamonds, 24; from Angola, 685; mined in S. Africa, 25, 677, 678
- Dian, clans of, 490
- Dianous, explorer, escaped from Taureg, 657
- Diaz (Bartholomew), discoveries of, 651
- Didinga, importance of cattle among, 351; law and sacrifice of, 519
- Diet, value of, and future changes, scientific study of, 695; see Agriculture, Cattle, Foods, Hunting, Meat, Milk, Plants
- Diffusion, of Egyptian Culture, 74, 75; of traits, 86; see Culture
- Digging stick, used by Bushwomen, 331
- Dik-dik, smallest antelope, 59
- Dilolo, railway center in Belgian territory, 684
- Dinka, 23; cattle and law of, 351, 519; clan and personal totems of, 491; described by Schweinfurth, 670; exogamous clans of, 491; Hamitic elements in language of, 300; marriage customs of, 416; physical measurements of, 181; psychology of, 283; rain-making and religion of, 553; secret society of, 501
- Diodorus Siculus, Roman explorer, 81
- Diogo Cão, explored in Congo, 653
- Dioscorea, yams, 41
- Diptera, flies, 70
- D'Isalguiet, explorations of, 654
- Discipline, of children, 442-443; by secret societies, 498-501; see Age-grades, Education, Law, Religion
- Diseases, 70; affecting African populations, 693; and new village site, 496; tropical, source for study of, 694
- Disguise, used in hunting by Bushmen, 334; illus., 139, 597
- Dispersal of human types, 227-229; see Culture, Diffusion, Migration

- Distribution, of animals, 51-71; see Culture, Human migration, Vegetation zones
- Divination, in Ashanti, 574; in Libyan oases, 376; literature on, 585; and reincarnation, 440; 560, 561; in the sand, 390; types of, 575; Zulu methods of, 561; see Medicine-men, Ordeal
- Divorce, among Kababish, 385; in matriarchal and patriarchal society, 423; among Negroes, 419-424; of slave wives, 536; among Tuareg, 371; see Adultery, Law, Marriage
- Dogs, 58; flesh of, tabooed, 582; for food, 595; forbidden as a sacrifice, 545; as a good omen, 583; magically treated for hunting, 600; Naron Bushmen hunt with, 334; only domestic animal of Dorobo, 346; sacrifice of, 401, 585, 643; story of, 313; among Tuareg, 368; used for hunting slaves, 539; used by Pygmy hunters, 341
- Dolls, in marionette shows, 319; as playthings, 446; as symbols in initiation, 464
- Dolmens, 158; and Neolithic man, 99; see Menhirs, Stone monuments, Tombs
- Domestic animals, 54-58, 69, 349-360; from Asia, 76; dog, the only one among Pygmies, 341; illus., 57; kept by Negroes, 594-596; of Libyan oases, 375; in rock sculpture, 143; in Siwa, 393; and slavery, 537-540; of Tuareg, 368
- Dom palm, 46; in Air, 50; fronds of, used for baskets among Kababish, 382
- Donkeys, on Egyptian murals, 54; location of, and how used, 58; in Siwa, 393; used by Tuareg, 368
- Doors, in village palisades, 522; illus., 523
- Dorobo, 366; hunters of E. Africa, 346; social organization of, borrowed from Nandi, 347; see Wandorobo
- Dowry, 410-414; contributed by brothers, 417; cows of mother's brother used as, 481; and divorce proceedings, 420, 421; when refunded, 512; see Divorce, Marriage
- Drakenberg Mountains, in S. Africa, 678
- Drama, 319, 320
- Dreams, 285; and ancestral spirit, 582; and beliefs in soul, 558; dead appear in, 563; interpreted by medicine-men, 580; literature on, 585; as origin of writing, 308; types of, classified, 285
- Droughts, 34; see Deserts, Kalahari, Pluvial periods, Rainfall, Sahara
- Drugs, in poison ordeal, 507
- Drum language, 320-322
- Drums, 448-451; beaten while cattle are milked, 354; human bones attached to, 528; literature concerning, 456; in Mohammedan dance, 393; played in circumcision ceremony, 459; played during divination, 575, during initiation, 464; played by women, 451; of pottery, 77; sacred among Baganda, 486, among Banyankole, 350; in sacred ceremonies in Ashanti, 549; of Tuareg, 370; of wood, well carved in Cameroons, illus., 615
- Dryopithecus mogharensis, 91, 92
- Du Chaillu, explorations of, 662
- Ducks, 69
- Dugout canoes, 604; see Canoes
- Duiker, a Ba-ila totem, 485; clan emblem, 491
- Dum palm, see Dom palm
- Dume Pygmies, near Lake Stefani, 346
- Dung, for smearing body, 270
- Durban, railway communications, 676; stone implements near, 123
- Durra, ceremonial offering of, to ancestors, 564; as food for camels, 50; location of cultivation of, 46; used for making beer among Kababish, 383
- Dutch, expansion of, in S. Africa, 71; settle at Cape of Good Hope, 666; and slave trade, 534; use ox-carts, 56; see Boers
- Duveyrier, explorations of, 656
- Dwarf, illus., 264
- Dybowski, explorations of, 665
- Dyes, in Algeria, 395; for cotton yarn, 636; for finger and toe nails among Tuareg, 366; imported, 636; of indigo, 38, 270; in leather work, 635; made by Kababish, 382; of Phoenicians, 79; for raffia, 42; used in Tunisia, 394; on wooden blocks for stamping cloth in Ashanti, 644; see Baskets, Colors, Cotton, Gourds, Henna, Indigo, Kohl, Weaving
- Eagles, 68
- Ears, of bride pierced, 413; mutilated, 262; ornaments for, in Tibesti, 373
- Earth, and agriculture, 398-404; eaten, 593; Mother, 402; see Geophagy
- East Africa, literature on history, politics, and commerce, 679; social and political problems, 713-716; see Kenya, Somaliland, Tanganyika, Uganda
- Ebony, used in wood-carving, 44, 614
- Echinochloa*, a genus of millets, 46

- Eclipse of sun, and history, 246
- Ecology, of animals, 51-71; of plants, 50; see Culture areas, Vegetation zones
- Economic changes, and agriculture, 586-593; and education, 698, 717-719; and geography, 672-689; among Kababish, 381-383; see European governments
- Edentata, 62
- Edo, childbirth customs of, 440
- Education, in Africa, journals and books recommended on, 709; African customs are a difficulty, 702; of Africans, 698-710, literature dealing with, 709; aims of, in relation to agriculture, pastoral pursuits, and handicrafts, 705, 708; and curriculum desirable, 704-708; and European opinions, 702; and Negro writers, 701; and other problems in Africa, literature relating to, 717-719; and political problems in Tanganyika Territory, 714; possibilities of, 699; possible aims and achievements of, 706; and status of natives, 700
- Efé Pygmies, and circumcision, 345; location of, 206; measurements of, 208
- Efik, marriage ceremony of, 566; a trade language, 288
- Egba, secret societies of, 501
- Egbo, secret society of Nigeria, 500
- Eggs, of *chigoe* flea, 70; in Libyan oases, 375; of locusts destroyed, 70; of parrot as symbolic message, 321; production of, 69, should be increased, 596; sacrificed by wood-carver, 644; sacrificial use of, in Ashanti, 643; of wild birds collected by boys, 608
- Egrets, 68
- Egypt, ancient races of, physique described, 249-251; basketry very ancient in, 639; bronze casting in, 630; camels in, 54; caravan routes to, 375; change in Mohammedan law in, 390; charms used in, 585; history of, 73-78; ibis sacred in, 68; jerboa in, 62; Jews in, 83; leather industry ancient in, 635; and the Nile, 23; population in, 32; present government in, 673; rock drawings from, 142; and Romans, 80; sacredness of kings in, 556; stone implements of, 105-112; and use of horses, 55; see Nile
- Egyptians, Hamitic language of, 299; physique of, 249; types of, illus., 195
- Ekkpe, secret society of Nigeria, 500
- Ekoï, and initiation customs for girls, 466; physical measurements of, 168, 170; skull deformation of, 266; system of counting of, 612; women shave heads, 270
- Elaeis guineensis*, oil palm, 43
- Eland, an antelope, 59; illus., 53
- El Bekri, 87
- Elende in Angola, 47
- Elephantiasis, 70
- Elephants, 52-53; Carthaginian, 31; carved in ivory, 635; ceremonial dance after killing, 600; clan totems of Yoruba, 489; hunted by Pygmies, 345; hunting of, and magic, 598; and rock engravings, 138, 142; symbolism of, in dreams, 582
- Eleusine*, a genus of millets, 46; *coracana*, location of cultivation of, 46
- Elevation, and climate, 21, 34; see Angola, Mountains, Nigeria, Physical features
- Elisabethville, railway center, 676, 684
- Elliptical temple at Zimbabwe, 88
- El Mansur, conquests of, 87
- Elmenteita, culture of, in E. Africa, 119; region of, in Kenya, 97
- Elmina, built by Portuguese, taken by Dutch, 651
- El Obeid, railway center in eastern Sudan, 680
- Emasculation, 266; not practiced by Wahehe, 538; see Castration, Eunuchs
- Embabaan River, stone implements from, 124
- Embu, physical measurements of, 178
- Emetics, used by Banyankole, 349
- Emin Pasha, explorations of, 671
- Emotions, suppressed, 285; see Psychology
- Encyclopaedias, 29; see Handbooks
- Engineering, African labor employed in, 696; and harbors, 21; and reservoirs, 23; see Bridges, Railways, Reservoirs
- England, and African exploration, 655-674; possessions of, 674-681; see Britain
- English, teaching of, in African schools, 705
- Engravings, in caves, 103; of ostrich eggs, 68, 331; on rocks, 137-152; see Cave paintings, Petroglyphs, Pictographs
- Ennedi, rock engravings near, 142
- Entomology, 71; see Flies, Locusts
- Environment, and culture; 325-404, and effect on race, 231; of Pygmies and Bushmen compared, 341; of South Africa, 124

- Equator, 20; and climate, 41; and climatic zones, 34; forests of, 34; and gorilla, 91
- Equus capensis*, in rock engravings, 151
- Eritrea, physical measurements taken in, 190; railway communication in, 680; railways and political importance of, 686
- Erosion, 24
- Erythrean, colony founded, 670; Sea, 76, exploration of, 650; see Indian Ocean, Periplus, Red Sea
- Esarhaddon, invaded Egypt, 78
- Eschatology, 566, 570; see Ancestor worship, Death, Ghosts, Religion, Soul
- Estuaries, of Congo, 24; see Niger, Nile, Zambezi
- Ethiopia, 23; language of, 301; Tamahu ruled in, 143; see Abyssinia
- Etiological stories, 74
- Etruscans, 80
- Eunuchs, status of, under slavery, 537; among Yoruba, 551; see Castration
- Euphorbia menelikii*, illus., 49
- Euphorbias, as poison for wells among Bushmen, 334; used for arrow poison, 333
- Europe, and Africa connected, 19-20; archaeological terms of, used in E. Africa, 119, in S. Africa, 127; archaeology of, 101-106; contacts of, and effect on Negro industries, 609; demands of, for ivory carving, 635; governments of, 672-719, for details see Table of Contents; governments of, and their rivalry in W. Africa, 660; influence of, on brass work, 632, on Pygmy beliefs, 345; methods of administration of, and conflict with African thought, 710-719; period of, 649-727; poultry imported from, 68; salt imported from, 591; slave trade with, 533-534; stone implements of, and S. African compared, 125; terms of, for Negro religion not satisfactory, 568; trade of, with Africa, 672-689; trade of, and influence on Africa, 610
- Europeans, attracted by trade, 25; health of, in Africa and future increase of, 695; introduce new vegetables, 694; ride oxen, 56
- Evil eye, 392; in Algeria, 395; of Bathonga witches, 572; charm against, 274; and conception of twins, 440; in Libyan oases, 376; in Siwa oases, 393; see Charms, Tattooing
- Evolution, biological concepts and sociological theories of, 720
- Executions, and destruction of soul, 560; and protection against ghost of criminal, 516
- Exogamy, in Nigeria, 490; and psychoanalysis, 284; among Pygmies, 345; and totemism of Ba-ila, 485; see Clans, Kinship, Totemism
- Exorcism, of demons, 393; see *Bori*
- Exploration, 649-671; difficulties of, 20; literature relating to, 649, 654; of rivers, 22-24; of Romans, 82; of W. Africa, literature on, 661
- Exports, of coffee, 48; of dates, 50; of kola nuts, 48; of maize, 48; of rubber, 48; see European governments, 672-688
- Eyebrows, plucked out, 266
- Eyelashes, darkened with kohl, 366; plucked out, 266
- Faiyum, ancient races of, 250; culture, illus., 112; stone implements of, 108
- Falashas, of Abyssinia, illus., 200; Jews of Abyssinia, 84; literature on, 670
- Family, 475-484; broad sociological study, and literature recommended, 722; and divorce proceedings, 419; groups, of Bushmen, 329; life, of Africans under European interference, 702; life, among Kababish, 384; organization, among Bushmen, 336, among Pygmies, 342; relationship, 469, see Kinship; responsible for crime, 516, see Law, Uncle; size of under polygyny, 418; worship in, 563; see Census, Demography
- Famine, caused by Zulu warfare, 531
- Fang (Fan) tribe, throwing knives of, totems of, 526, 826; use crossbow, 600
- Fan palm, in Liberia, 46
- Fantasia*, burlesque play in Libya, 377; among Kababish, 383
- Fanti, military organization of, 528
- Fashoda, clash of Kitchener and Marchand, 665
- Fast, of Banyankole, 349
- Fat, ceremonial offering to ancestors, 564; eaten with manioc, 588; of human kidneys magically used, 499; for preserving locusts, 608; rubbed on corpse, 354; scraped from hides, 635; from shea-butter tree, 46; for smearing body by Bushmen, 331; used for baking armlets, 364; see Oil, Palms
- Father, meaning of, in Negro kinship, 478; right, subordinate to mother right in W. Africa, 480; see Kinship
- Fatima, lucky hand of, 395; symbol of, 260

- Fattening of girls, before marriage, 466
- Fauna, see Animals
- Fauresmith, stone age site in S. Africa, 128
- Feasts, and age-grades, 503; at initiation of hunter, 598; among Kababish, 386; Mohammedan, 387, and clan service, 493; in N. Africa, 394; after warfare, 530; see Cannibalism.
- Feather plumes, of a coward catch fire, 531; see Ostrich
- Feathers, for arrows, 524; not used on Pygmies' arrows, 342; of sacred birds, 68; used for arrows by Bushmen, 333; for warriors' head-dress, 529
- Feet, deformities of, 70; not allowed to touch ground, 507
- Fekis, holy men of Kababish, 386
- Felkin, explorations of, 670
- Felup, nasal index of, 168
- Females, descent reckoned through, 480; see Ashanti, Kinship, Labor, Women
- Fermentation, of palm sap, 41
- Fernando Po, 651; Spanish possession, 688
- Fertility, charms to give, 274; of crops and ancestor worship, 560; cults, at Zimbabwe, 88; Legba, God of in Dahomey, 546; rites, 585, for cattle, 358, and secret societies, 499; of soil, and religion, 398-404; symbols of, on corn bins, 403; see Barrenness, Divorce
- Fez, anti-syphilitic institute at, 683; captured by Arabs, 86
- Fezzan, explored by Duveyrier, 656; Garamantes tribe in, 81
- Fiber, of baobab used, 48; of wood used by Bushmen, 331; see Palms, Raffia, Sisal
- Field work, difficulties of languages and interpretation in, 726-727; and future research, 725; and recording languages, 322
- Figs, 40, 50; grown in Algeria, 395
- Figurines, carved from wood, 616; of wood among Ovimbundu, illus., 625
- Figwort, used in game, 444
- Filariasis, 71
- Finger, joints lopped off, 266; nails, allowed to grow long, 266
- Fingers and toes, used in counting, 612
- Fire, carried by boys in initiation, 459; ceremonial, and new village site of Ovimbundu, 496; by friction among Tuareg, 367; lucky girl must light, for baking pots, 644; made by hunters, 346; made by twirling among Pygmies, 341; methods of making, 591-592; produced by friction among Bushmen, 332; sacred, 356, 359; sacred, in burial hut of kings in Angola, 495; sacred, in king's kraal, 349; sacred, and made by twirling stick among Bushmen, 338; for smoking bees from hives, 608; sticks, of Bushmen, 330, carried in hair, 270; see Branding, Burning, Cooking
- Firearms, 526-527
- Firestone Rubber Company, 673
- Fish, dreaming of, 580; in lakes, 22; methods of catching, 67; sacred, 67; shot by crossbow, 602
- Fish Hoek Bay, 96
- Fisher, skirts of, 42
- Fishing, literature on, 645; of Negroes, 602-604; nets for, made during initiation, 465; sometimes practiced by Bushmen, 333; by torchlight, 603; by weir, illus., 607
- Flaking, of stone in Egypt, 73; see Stone implements
- Flamingoes, 68
- Flatters (Colonel), killed by Tuareg, 657
- Flax, 40
- Flies, and entomology, 70; as omens, 583
- Flint, 24; knapping of, in Egypt, 73; and steel, 592; see Stone implements
- Flogging contests, 446; see Initiation, Law, Punishments
- Flora, see Botany, Palms, Plants, Zones of vegetation
- Flour, from baobab fruit, 48; see Durra, Maize, Manioc, Meal, Millet
- Flutes, 452
- Folklore, Arabian, in Siwa, 393; and culture contacts, 314; stories, 311-315; theories of origin, 315; about Zimbabwe, 88; see Mohammedanism, Semitic customs
- Fontanelle, of newly born child covered, 432
- Food, of Africans, modern studies of, 694-695; chemical analysis of, 51; in Libyan oases, 375; locusts as, 70; offered to sacred crocodile, 568; offered in sacrifice, 395; plants, distribution of, 50; plants, research needed on, 51; prejudices against, 595-596; restrictions during pregnancy, 429-433, 436; taboos on method of serving of, 525; taboos relating to, 487, see Totemism; of Tuareg, 366; see Agriculture, Diet, Domestic animals, Hunting
- Foot, of Negro dissected, 235

- Forestry, institute of, in Oxford, 51; schools of, 44; sources for study of, 44
- Forests, of Belgian Congo, 684; clearings of, and agriculture, 42, 586; and climate, 21; dense equatorial, 32; destruction of, 30; life of Pygmies in, 341-345; of Nigeria, 675; in Rhodesia, 677; snails collected in, 609; zones of, and cultures, 326
- Forge, 629; see Anvil, Bellows, Blacksmith, Charcoal, Iron
- Formulae, for comparing averages, 164, 165; for racial likeness, 224
- Fossil man, 91-99; in Africa, summary of, 99; distribution of, in Africa, 92; in Europe, 106; of Mechta, 115; see Paleontology
- Fossils, discontinuous distribution of, 30; of prehistoric man, 226; see Paleontology
- Foster mothers, 433
- Foureaux-Lamy expedition, 657
- Fowls, from Asia, 76; see Chickens, Ducks, Poultry
- Foxes, 60; in Air, 362; flying, 62
- France, expeditionary work of, 657, see Exploration; policy of, toward Africans, 700; possessions in Africa, 681-683; and regulations for African laborers, 697
- Freetown, 674
- Freezing point, at high elevations, 21
- French, administration of, in Africa, literature relating to, 717; defeat Rabeh, 55; defeat Turks, 89; Equatorial Africa, political unit of, 683, population of, 32; Guinea, railways of, political, commercial, 683; Niger Territory, political unit of, 683, Tuareg and camels in, 363; Sudan, rock sculpture in, 138
- Fresh water systems, 22-23; see Lakes, Rivers
- Friction drum, 453
- Friendships, best friend, 494; of boys and girls before marriage, 410-411
- Frigidity, Ovimbundu custom, 420
- Frogs, 64; as a bad omen, 583
- Fruits, 41; of baobab as food, 48; of borassus palm eaten, 46; collected by women and children among Ovimbundu, 608; first fruits offered to dead ancestors, 549, see Sacred kings; of kola tree, 48; offering of first, 338, 398-404; see Harvesting, Sacrifice
- Fulani, cattle customs of, 358; cattle kept by, 56; clothing and ornament, illus., 271; descent how reckoned, 480, 481; joking relationship among, 492; sell cattle to Tuareg, 368; subdued by British, 56; use of baobab tree by, 48; whipping ceremony of, illus., 463
- Functional studies, literature relating to, 723
- Funeral, boat used for, 76; customs among Nankanse, 481; feast, cattle used in, 354; of hunter among Ovimbundu, 598; rites, 548-555, of Banyankole king, 350, of Kababish, 386, of Ovimbundu, illus., 559, of Tuareg, 370, see Sacred kings; symbolism of, in dreams, 582; see Burial, Death
- Fur, cloak presented to Bushman bride, 337; garments, for governing class, 504
- Furnaces, at Zimbabwe, 89; see Blacksmith, Forge, Iron, Smelting
- Gabes, Gulf of, in Neolithic times, 117
- Gaboon (Gabun), French political unit in, 683; Pygmies in, 202, 345; River, reached by Carthaginians, 79
- Gaetuli, ancient tribe, 81
- Gafsa (Tunis), 104
- Gall, bladder, of python used, 64; of mamba in treating wound, used by Bushmen, 339
- Galla, age-grades of, 503; initiation of boys of, 466; language is Hamitic, 300; physical measurements on, 199
- Gambia, 674
- Gamble's Cave, 97
- Gambling games, 445
- Gambos, in Angola, 270
- Game, destroyed by hunters, 59; herds of, 32; how divided by Pygmies, 342; see Animal life, Antelopes, Hunting Games, 443-446; of Negroes classified, 443
- Gan, clans of, 490
- Gao, early visit by Italian explorer, 654; stone implements near, 134
- Garamantes, 81, 144
- Gazelle, in desert, 59; hunted with cheetahs, 61; illus., 53; trapped by Kababish, 383; trapped by Tuareg, 368
- Gebel Moya, railway communications, 680
- Geckos, used as food by Bushmen, 329
- Ge'es (Ethiopic), 301
- Genealogy, and history, 72; little remembered by commoners, 478; of Shilluk kings, 554; see Kinship
- General Gordon, 671
- Genetics, 231
- Gentil, explorations of, 665; and French exploration, 657

- Geographers, ancient, 81; see Arabs, Exploration, Periplus
- Geography, 593; of Africa, source book for, 672; of animals, see Animal life; compendium for Africa, 29; conditions of, and life of Kababish, 381; factors of, 19-23; and human life, 227; of Egyptian, Roman, Greek, and Arab writers, 144; and population section III on Culture areas; of plants, see Zones of vegetation; of Swaziland, 677
- Geology, and archaeological method, 100; factors of, in human culture, 26; formation, in relation to physical features, minerals, and climate, 19-28; and fossils in Kenya, 98; research on, needed, 28; see Minerals, Paleontology Physical features
- Geometrical designs, on brass, 632; in raffia mats, 636; in wood carving, 616; see Brasswork
- Germany, colonial developments of, 679; expeditionary work of, 656, see Exploration; and French interest in Africa, 681; possessions acquired by, 656; school of sociology of, 722; warfare of, reduced the Herero, 691
- Gerontocracy, 475; see Age-grades, Social controls
- Getulian culture, 114
- Gezo, king of Dahomey, and female warriors, 527
- Ghadames, rock engravings near, 141
- Ghana, kingdom of, 87; kinship and descent in, 480
- Ghat, rock engravings near, 141
- Ghomara, a Berber tribe, physical measurements on, 198; pigmentation of, 252
- Ghosts, 75; appeasing of, 566; Bushman beliefs in, 339; and divination, 576; interest of, in conduct of living people, 565; as judges during initiation, 460; of murdered victims, 516; Pygmy beliefs in, 345; of royal dead propitiated, 549; vindictiveness of, 562; see Ancestor worship, Religion, Soul
- Ghuls, beliefs in, among Kababish, 386
- Gibbons, 91
- Gibraltar, 19; and Phoenicians, 79
- Gin, as currency, 612
- Ginning, of cotton, 644
- Giraffes, 59; in Kordofan, 383; north of Chad, 362; in rock engravings, 59; and rock sculpture, 144
- Girls, as companions of unmarried warriors, 529; enlisted in army of Dahomey, 527; fattened before marriage, 466; initiation of, 461-463; members of secret societies, 498-502; unmarried, own land, 513; see Females, Games, Handicrafts, Labor, Women
- Glaciations, 30; in Europe, 104
- Glaciers, in Europe and Africa, 103; periods of, in Europe and pluvial periods of east Africa, 120
- Glands, and normal development, 278
- Glass, beads of, in Egypt, 73; made at Bida, 634; ornaments of, worn by Tuareg, 364; of Phoenicians, 79; at Zimbabwe, 89; see Aggrey beads, Beads, Stone
- Glazes, used by Badarians, 112
- Glossinia morsitans*, 70; *palpalis*, 70; see Tsetse fly
- Gnostics, an early Christian sect, 81
- Goats, in Abyssinia, 687; in Algeria, 395; as bad omen, 583; better husbandry needed for, 596; breeds of, 595; hair of, for rugs by Kababish, 382; kept by Kababish, 381, by Tuareg, 366; long-eared, Syrian, illus., 57; as payment for injury, 519; in rock engravings, 142; sacrificed at birth of child, 440; in Siwa, 393; skin of, used for clothing, 364, for making bags by Tuareg, 367; widely used, 58
- Gods, and agriculture, 398-404; Egyptian, 23; ideas of, 542-548, and literature on, 584, among Masai, 354; and law, 508; maternal and paternal, among Bathonga, 477; see Religion, Sacred kings
- Golah, initiation rites of, 464
- Gold, 24, 25; bangles of, at Zimbabwe, 89; of Byzantines, 83; dreaming of, 580; dust as currency in Ashanti, 612; future mining prospects of, in W. Africa, 682; mined in Ashanti, 675, in S. Africa, 677; and Phoenicians, 78; stool of, in Ashanti, 548-549; Zimbabwe mines of, 87, 89
- Gold Coast, clinics at, 694; political and commercial, 675; and racial mixture of, 246; slave trade on, 425
- Gomera, an island in the Canary group, 117
- Gongs, 452
- Gora, see Goura
- Gordon College, at Khartum, 680
- Gorilla, 91
- Goura, musical instrument of Bushmen, 336, 453
- Gourds, 38; for collecting palm sap, 42; for holding palm wine, illus., 640; hung around neck during fishing, 603; literature on, 646; for making musical instruments, 453; ornamentation

- of, illus., 623; as rattles, 452; various designs on, 620; see Calabashes, Dyes, Indigo
- Government, publications of, 672; transfer of, under age-grade system, 503-506; see European governments, Law, Social controls
- Graebnerian School, 721; see Kulturkreis
- Grain, botanical names of, 44; grinding of, by Tuareg, 366; measures of quantity of, 613; purchased by Kababish, 383; stored in baskets by Vakwanyama, 587; see Agriculture, Durra, Maize, Millet, Wheat
- Granada, Arabian influence in, 85
- Granaries, illus., 589; of Negroes, 587
- Gran Canaria, 117
- Grandparents, and joking relationship, 493; see Age-grades, Gerontocracy, Kinship
- Grant's gazelle, 53; zebra, illus., 53
- Grapes, 50; in Kufra, 375
- Graphite, mined in Ashanti, 675
- Grass, area, 34, in Rhodesia, 677; for building shelter, 524; coarse in semi-desert, 34; as human food, 46; for making baskets and mats, 639; set on fire by Ovimbundu to drive out game, 608; shelters game, 59; symbolism of, 354, 529; see Vegetation zones
- Grasshoppers, 70; used in fishing, 603; see Orthoptera
- Graves, ancestral rites at, among Shilluk, 564; in ancient Egypt, 73; cattle sacrifice near, 350; lined with hides, 354; marked with horns of cattle, 356; monuments on, 155; of Ovimbundu, illus., 559; theft from, punished by death, 515; see Burial, Death, Funerals, Tombs
- Greaves, used on Bauchi Plateau, 524
- Greece, Mediterranean race in, 249; philosophers of, 23; and scriptures, 81
- Greeks, in Africa, 80-82
- Grinders, of stone, 123, 530
- Griquas (Hottentots), craniometry of, 217
- Grootfontein, railway communications, 676
- Grotten kultur, in north Africa, 115
- Groundnuts, 41, 675; see Nigeria, Sierra Leone
- Groves, sacred, 489; sacred to blacksmith, 643; in Nigeria, 80, illus., 573
- Guanches, racial relationship of, 116
- Guava, 41
- Guides, for desert travel, 375
- Guilds, for blacksmiths, 643; see Benin, Bronze
- Guinea, corn, 50, see Durra; fowl, domesticated, 69; Gulf of, 38; Gulf of, explored, 651; Gulf of, and rainfall, 38; see French, Portuguese, Spanish
- Gumban, culture of, in east Africa, 119
- Gums, of commerce, 48; from hard woods of Italian Somaliland, 686; from Sudan, 680; see Acacias
- Guns, see Firearms
- Gwari, and polyandry, 417
- Gypsies, 397; see Nomadism
- Hadendoa, illus., 197; locations of, 680; physical measurements on, 168; skulls of, 250
- Hair, dressing of, by priests in Ashanti, 545, of Tibesti women, 373; human, worn as girdles by Kababish, 385; ornamentation of, 266-270; represented in wood-carving, 626; shaved from head by Kababish, 385, in Tibesti, 373; Tuareg ornaments for, 366
- Half-Hamites, clans and totems of, 492; kinship system of, 474; physical measurements on, 199, 202; see Masai, Nandi
- Hamaches, a Mohammedan order, 393
- Hamites, and Berber culture, 393-397; divisions of, 163; and iron work, 629; migrations of, 75, 85; military system of, 528-530; physical measurements on, 198; social status of hunters, 600; system of initiation of, 466; see Berbers, Cattle culture, Hadendoa, Somali
- Hamitic, age-grades, 502-506; languages, 299-302, in Abyssinia, 687; relation to other African languages, 300; speech in Tibesti, 372; traits, in Hottentot language, 291; types, illus. and measured, 195-199, and Springbok man, 97
- Hammers, of blacksmith sacred, 642-643; of stone, 123, 135
- Hammer stones, used by Bushmen, 332
- Hanbalites, a Mohammedan sect, 388
- Handbook, of Nigeria, 675; on political divisions, 673; on Portuguese colonies, 685; on W. African possessions, 675
- Handicrafts, in ancient Egypt, 73; considered menial, 356; of Negroes, 613-646, literature on, 646, points summarized, 614; seen in markets of Nigeria, 610; taught by missionaries, 666; see Baskets, Bronze, Iron, Pottery, Wood-carving
- Hands, signs made by, 318

- Hanifites, a Mohammedan sect, 388
Hannibal, 54; in Italy, 80; used horses, 55
Hanno, Carthaginian leader, 79; voyage of, 650
Harbors, 20
Harems, Eunuchs supplied for, 536
Hares, in Air, 362; flesh of, forbidden during pregnancy, 430; flesh tabooed, 582; in folklore, 62, 313; hunted by Bushmen, 334
Harmattan wind, 22
Harpoons, 77; used in fishing, 603
Harun-al-Rashid, Arab chief, 85
Haruspication, 575; of human victim, 499
Harvard, African expedition, 694; expedition to Liberia, 71; University, report on labor conditions in Africa, 696
Harvesting, storing of grain, 587
Hassenein Bey, and exploration of Libya, 661
Hausa, communities of, in N. Africa, 392; geography among, 593; Hamitic features of language, 300; language suitable for wide adoption, 704; males make clothing, 368; measurements of, 165-172; and salt caravan, 369; stage plays of, 319; subdued by British, 56; system of counting and measuring of, 612-613; a trade language, 288; traders, and Negro writing, 308
Hawaiian Chinese hybrids, 233
Hawk, sacred, 68
Hawkins (Sir John), and the slave trade, 658
Hayward, and Saharan exploration, 661
Head, of bronze, 630; dress, for magician in Cameroons, illus., 581; form, summary of African people, 222; hunting, 532-533; hunting, and destruction of soul, 560
Health, of Africans, factors concerned, 690-694
Heart, of animal sacrificed by Pygmies, 345; human soul contained in, 556-558
Hebrews, and ancient Semitic customs, 390; customs of, 392; language of, 83; see Jews, Semites
Hegira, year of Prophet's flight from Mecca, 390
Hehe, see Wahehe
Heikum Bushmen, ceremony of first fruits of, 334; marriage customs of, 337; stature of, 213
Heliolithic culture, 75
Helmet, for horsemen, 56
Hemp, narcotic, used in N. Africa, 394; smoked by Bushmen, 332; smoked in water pipe, 590
Henna, 38, 392; for fingernails in Tibesti, 373; plant grows in Air, 366
Henry the Navigator, 651
Herbs, for bathing eyes of hunter, 598; see Medicine-man
Herdsmen, duties of, among Banyankole, 349; see Cattle
Herero, as cattle keepers, 356; subjugated by Germans, 691
Herodotus, 81; and exploration, 649; and the Niger, 82
Heroes, stories about, 313; see Folklore, Mythology
Heuglin, explorations of, 670
Hides, 635; as clothing, 270, for Bushmen, 330, among hunters, 346; for corpse of king, 350; exported from Ashanti, 675; graves lined with, 354; pouch of, for carrying infant, 330; preparation of, 270; preparation of, by Vakwanyama, 607; rings of, worn on fingers, 503; shields of, 522; used as a shroud, 354; various uses of, 635
Hiechware Bushmen, practice circumcision and clitoridectomy, 333; practice ground smoking, 332; stature of, 213
Hieroglyphs, 302, 304
Hippopotamus, 59; goddess in Egypt, 23; hunted, 753; and rock engravings, 142
History, as aid to anthropology, 721; of Anglo-Egyptian Sudan, 680; of anthropology, 720-722; of Asiatic contacts with Africa, 72-78; of Bantu migrations, 248-249; of Belgian Congo, 684; of Egypt, 72-78; of French possessions and sources for study of, 683; of Greeks, 80-83; of Jews, 83; of kinship systems, 476; of Phoenicians, 78-80; of plants, 38; of Romans, 80-83; of South Africa, 678; of Tuareg, 253, 254; in writing, 72; see section I, chap. II, III
Hives, for bees, 347, 608
Hoe, blades, as currency, 612; chiefly used in Negro agriculture, 587; cultivation, future of, in Africa, 694
Hoggar Mountains, 34; breed of camels from, 368; explored by Duveyrier, 656; Tuareg of, 364; Tuareg defeated in, 657
Holcus sorghum, 46; see Durra, Millet, Sorghum
Holub, explorations of, 668
Homa Mountain, and Kanam mandible, 98

- Home, influence on children, 442; see Family, Kinship
- Homicide, see Murder
- Homo, kanamensis*, 98; *nordicus*, 251, 252; *rhodesiensis*, 92, 94; *sapiens*, 91, origin of, 226, original home of, not in Africa, 114, type of, 116
- Homosexuality, general information; 424; in secret society, 500
- Honey, added to beer, 590, 608; collected by Pygmies, 341; as food for Bushmen, 329; gathered by Ovimbundu, 608; method of collecting, in Nigeria, 609; from nests of wild bees, 347; used for making intoxicating drink by Bushmen, 332
- Hope Fountain, stone implements near, 127
- Horn of Africa, Italian possessions in, 686
- Hornbills, 68
- Hornemann, explorations of, 654
- Horns, blown by mother of twins, 433; of cattle anointed, 359, ornamentally twisted, 352; as charms, 578; for cupping, 392; filled with magical medicine, 274, 610; human bones attached to, 528; as musical instruments, 452; of sacrificed animals, how used, 356; as symbol in initiation, 464; used for point of digging stick, 331; used for tobacco pipe by Bushmen, 332
- Horsemanship, of Kababish, 383; see *Fantasia*
- Horsemen, highly skilled in Libya, 377; illus., 391
- Horses, 34; in Abyssinia, 687; accouterments of, made by blacksmiths, 629; diseases of, 56, 71; on Egyptian murals, 54; hair of, for musical instruments, 77, 390; historical notes on, 55, 56; kept by Kababish, 381; leather trappings for, 635; in Libyan oases, 375; in rock engravings, 142; and tsetse fly, 56; of Tuareg, illus., 365; where used and bred, 55
- Horus, sacred hawk of, 68
- Hospitality, and clan membership, 485; great among Bedouins, 377; of Ovimbundu, 443; and wife-lending, 424
- Hottentots, and Boskop type, 96; compared with Bushmen, 214; cut off finger joints, 266; decline in number, 690; illus., 225; languages of, 291-293; languages of, Hamitic, 300; physical characters of, 217; physical measurements of, 213; supply iron to Bushmen, 332; use cattle, 358
- Houses, of agricultural Negroes, 399; Bedouin-Arab tent, illus., 380; built for initiation, 465; for burial of kings, 495; of Bushmen, 330; of Dorobo hunters, 346; dream of burning of, 582; of Kababish, 382; in Kano, 389; for men only, 409, 410; method of building, by Ovimbundu, 620; Mohammedan styles of, 392; one for each wife, 418; of Pygmies, 346; in Tibesti, 373; of Tuareg, 366; where girls are fattened, 466
- Huila (Angola), railway communications, 685
- Human, bones, in medicine, 274; bones and monuments in N. Africa, 153; control, see Engineering; sacrifice, 79, 528, in Ashanti, 549, of Baganda, 554, in Benin, 552, to crocodiles, 64, in Dahomey, 550, forbidden by Mohammed, 387, by secret society, 499; stocks, origins of, 228
- Humidity, 21; in forests, 32; see Climate, Rainfall
- Humor, in English essays of Negroes, 705; illus., by folklore, 311-313, by proverbs, 309-311
- Hunters, destroy soul of slain animal, 489; disguised, 334, illus., 597; houses of Wandorobo, illus., 601; modern, 52; in rock engravings, 137; scattered groups of, 346; and social status of, 600; tomb, illus., 599; trophy of Ovimbundu, illus., 599; use firearms, 526; see Bushmen, Pygmies
- Hunting, and boys' games, 444; Bushmen dancers in ceremony of, 334; and ceremonial dancing, 447; cultures, ancient in Sahara, 115; cultures, summarized, 347; dogs magically treated for, 600; among Kababish, 383; of lions by Masai, 352; literature on, 645; mantis gives good luck in, 338; and mythology, 542; in Negro tribes, 596-602; of Pygmies and Bushmen compared, 341; and rock engravings, 144; territory, 336; among Tuareg, 368
- Husband, Bushman, lives with wife's kin, 337; see Betrothal, Bridegroom, Divorce, Marriage
- Huwe, supernatural being of Kung Bushmen, 334
- Hweli, protector of household in Dahomey, 563
- Hybridization of races, 233
- Hyenas, 60; in Air, 362; folklore story of, 313; illus., 63; in rock engravings, 141
- Hylobates, 91

- Hymns, to Nile, 24; in praise of chiefs, 318; see Poetry, Songs, Spells
Hyphaene thebaica, dum palm, 46
 Hyracoidea, see Hyrax
 Hyrax, 60
- Ibadan, food market at, 606; nature of market trade at, 610; sacred white crocodile of, 567; school of forestry at, 44
- Ibex, of Abyssinia, illus., 200
- Ibibio, age-grades of, 505; marionettes used by, 319
- Ibis, sacred in ancient Egypt, 68
- Ibn, Batuta, 87; Edrisi, 87; Haukal, 87; Khaldun, 87; Yacin, 86
- Ibo, age-grades of, 505; agricultural rites of, 401; blacksmiths form a union among, 643; proverbs from, 310; twins detested by, 440
- Ice Age, in Europe, 102-104
- Idols, forbidden by Mohammed, 387
- Ifé, 67; cultural influences at, 80; sacred groves in, illus., 573; terra cotta heads from, 136
- Ijaw, age-grades of, 505
- Ijebus, secret societies of, 501
- Illegitimate births, possible increase of, 702; see Chastity, Infanticide
- Illuminant, fat used for, 48
- Ilorin, nature of market trade of, 610; stone beads made, 634
- Imperial airways, routes to Africa by, 677
- Implements, of stone, 99-136
- Imports, see European trade
- Impotence, of male and divorce, 439
- Incest, see Cousins, Cross-cousins, Kinship systems, Law, Marriage
- Independent territory, 673-674
- India, Arabs in, 85; beads from, 189; cheetahs trained in, 61; and early navigation, 651; fowls from, 76; and ivory from Africa, 54; rice from, 40; and trade with Zimbabwe, 88
- Indian, corn, see Maize; elephant, 54; influences, 76; music in Africa, 455; Ocean, and early exploration of, 650, and strategic importance of, 686; traders, in Kenya Colony, 679
- Indigo, 38; cloth, worn by Tuareg women, 364; dye, used in tattooing, 260; plant, 48; staining gourds, 620
- Indonesia, and African music, 456; general influences of, 604
- Industries, of Berber women, 395; see Handicrafts, Labor, Occupations
- Infanticide, 411, 432; an ancient Semitic practice, 387; by Jagas of Angola, 527; not among Tuareg, 371; of twins, 433-434; see Abortion, Betrothal, Chastity
- Infants, betrothal of, 411-413; mortality of, in Lobi tribe, 692, among Ovimbundu, 693; see Demography
- Infibulation, among Kababish, 385; of slave girls, 536
- Ingots, of copper, 89
- Inheritance, 471; of cattle, 358; among Kababish, 385; of land, 402; laws of, 511-512; in male line by Nankanse, 482; of medicine-man's power and of priestly functions, 574; of occupation of mother by daughter, 644; in occupation, 632; system of, in Libya, 377; see Father-right, Law, Mother-right
- Initiation, Bantu, 458-464; of blacksmith, 642; of a hunter among Ovimbundu, 598; illus., 461, 463; Nilotic, 466-468; of priests and medicine-men, 574; rites, and literature recommended, 468; and secret societies, 500; Sudanic type of, 464-466; summary of factors, 456-458; see Age-grades, Puberty, Secret societies
- Ink, used for writing Koranic texts, 392
- In-laws, and joking relationship, 492; taboos concerning, 482; see Kinship, Mother-in-law, Taboos
- Inoculation, of human beings, 576
- Insalah, physique of inhabitants of, 253; rock engravings near, 145
- Insectivora, 62
- Insults, by hand signs, 318
- Intelligence, and race, 276; tests of, 279
- International Institute of African Languages and Cultures, 288; and schemes for writing African languages, 704; see periodical "Africa"
- Intoxicating drink, 41
- Intoxication, 41, 332, 393; see Alcohol, Beer, Hemp, Narcotics, Wine
- Inundation, of Nile, 23
- Ipomaea batatas*, sweet potato, 41
- Iron, 25; for arrowheads, 524; arrow tips of, among Bushmen, 332; as currency, 612, see Hoe-blades, Spearheads; early use of, in W. Africa, 134; in Egypt, 73; forged by Tuareg, 367; formerly worked in Kordofan, 383; future mining prospects of, in W. Africa, 682; gongs, 452; for heads of harpoons, 603; historical notes on, 628; hoe-blades made from, 587; literature on, 646; not forged by Bushmen, 332; not made by Dorobo, 347; points for arrows of Pygmies, 342; punch for making beads, 634;

- rods, used in glass-making, 634; scraps of, for loading guns, 526; spearhead under stone monument, 154; and stone implements of W. Africa, 134, 135; tools of, and methods of making, 629-630; work, oriental influence on, 76; at Zimbabwe, 89; see Blacksmith, Weapons
- Irrigation, 586; in Air, 50; ancient in E. Africa, 157; in Egypt, 23; by Kabyles, 50; in Kufra, 375; in Nigeria, 401; oxen turn wheels for, 56; Romans and Persians used, 25
- Iseyin, weaving of, illus., 637
- Islam, see Arabs, Koran, Mohammedanism, Semites
- Israelites, 83; see Hebrews, Jews
- Istanbul, on site of ancient Byzantium, 83
- Italy, archaeological work of, 112; and Caspian Culture, 129; expansion of, and literature relating to, 687; exploration of, in E. Africa, 670; Hannibal's campaign in, 55, 80; influence of, in N. Africa and literature relating to, 688; Mediterranean race in, 249; population of, 685; possessions of, in Africa, 685-688; rights of, in Tangier, 688
- Ituri, Pygmies of, 202; type of dwelling, illus., 601; see Belgian Congo, Pygmies
- Ivory, 52, 634-635; from Belgian Congo, 684; of Byzantines, 83; carving, European influences in, 635; as currency, 612; exported from Zanzibar Protectorate, 679; from Mozambique, 685; musical horns of, 452; as ornament, 274; and Roman hunters, 31; and slave trade, 538; trade in, 245; trumpets of, among Yoruba, 551; tusks at Benin, 630
- Ivory Coast, forest in, 32; railways of, political, commercial, 683; wood-carving of, 44
- Jackals, 60; in Air, 362; hunted by Bushmen, 334
- Jack fruit, 40
- Jagabub Oasis, headquarters of Senussi sect, 376
- Jagas, military organization of, 527; and slave raids, 245; war-like tribe of Angola, 452
- Jalelo, stone implements near, 118
- Ja-luo tribe, stone clubs of, 135
- Java, and African music, 456; influence of, on African canoes, 604
- Javelins, barbed, in Tibesti, 373; see Spears
- Jealousy, in polygynous family, 478
- Jebba, modern bridge at, 676
- Jerboas, 62; in Air, 362
- Jerd*, an article of Bedouin clothing, 375
- Jesuits, and Portuguese exploration, 652-653; see Christianity, Missions
- Jewelers, among Tuareg, 367
- Jewish population in Tripolitania, 396
- Jibuti, railway from, to Addis Ababa, 687; reached by Marchand, 665
- Jigger, 70
- Jinns*, beliefs concerning, 376; Kababish believe in, 386; in Siwa, 393
- Johannesburg, conditions of African labor in, 698; importance of mining in, 677
- Joking relationships, 492-493; and Bala age-grades, 505
- Jos, railway communications of, 676
- Journals, dealing with archaeology in Africa, 112
- Jugglers, as entertainers, 446
- Jugurtha, enemy of Romans, 82
- Juice, baobab, added to milk, 48; magical use of, on weapons, 525; vegetable, as protection against stings of bees, 609; see Sap
- Jukun, birth customs of, 439; father-right and mother-right among, 480; funeral boat of, 76; joking relationship of, 492; religious beliefs of, 546; sacred oath of, 507; special cultural developments of, 407; status of married women among, 423; and stone buildings, 153; time reckoning of, 592
- Julius Maternus, and exploration in Sahara, 650; a Roman explorer, 82
- Junker, explorations of, 670
- Juvenile mind, 286; see Animism, Children, Psychology
- Jwok, high god of Shilluk, 547
- Ka*, a ghost, 75
- Kaaba, temple at Mecca, 387
- Kababish, Arab influence on, 253; life of, described, 380-387; Negro influence on, 253; physical measurements on, 198
- Kabyles, agriculture of, 50; customs of, 395, 396; pigmentation of, 252
- Kafir corn, 46; ceremony connected with, by Bathonga, 403; see Durra
- Kafirs, stories of stone using people, 123
- Kafuan, culture in Uganda, 122; stone implements of E. Africa, 119
- Kagoma, agricultural rites of, 400
- Kagoro, agricultural rites of, 400
- Kairwan, near Carthage, 85

- Kalahari Desert, 34; and Bushmen illus., 218; a cultural zone, 327; lion hunting and magic in, 598; locusts eaten, 70; ostriches in, 68; physical features of, described, 329; physique of Bushmen of, 210-216; rainfall in, 38
- Kampala, educational institution at, 706
- Kanam mandible, 98
- Kanembu, measurements of, 169
- Kanjera skulls, 98
- Kano, center for leather work, 635; gourds ornamented at, 620; and groundnut trade, 41; males make clothing in, 368; Mohammedan prisons in, 510; nature of market trade of, 610; pottery, illus., 637; railway communications, 676; slave market at, 537; temperature near, 32; and trade, 26; walls around, 522; weaving of, illus., 638
- Kanuri, Greek words in language of, 81
- Kaross, fur cloak for Bushmen, 60, 330
- Karunga, God of S. W. Bantu, 543
- Kasai, region, surveyed by Wissmann, 665; River, rice grown near, 42
- Kassala, railway communications of, 680
- Katanga, copper mines at, 25; copper produced at, 684; stone implements near, 132
- Katsina, and trade, 26; walls around, 522
- Katsina Ala, 603; see Munshi
- Kavirondo Gulf, fishing operations near, 602; and Kanam mandible, 98; population near, 32
- Keloids, 258-260
- Kenya, ancient terracing in, 157; archaeology of, 118-123; big game in, 59; canoes in, 21; climatic and geological changes of, 31; Colony, political and commercial, 679; culture periods, compared with European, 119; decline in population of, 691; educational and political problems of, 713-714; explorations in, 670; and glaciers, 102; houses of Wandorobo, illus., 601; human fossils in, 97; hunting tribes of, 346; military system of, 529; mountain of, 21; problems of administration and literature relating to, 718; travels of Krapf in, 669; wheat grown in, 50
- Kernels, for making soap, 42
- Kharga, oasis of, 24; in Libya, 374; stone implements in, 108, 112
- Khartum, education in, 680; educational institution at, 706; geographical position of, 680; reached by Nachtigal, 656
- Khnemu, Egyptian God, 74
- Khoisan, divisions of, 163; languages of, 291-293; physical measurements of, 210-220
- Khoms (Lebda), in Tripoli, 80
- Khrumirs, Berbers of Tunisia, 394
- Khuzwane, God of Bavenda, 544
- Kif, smoked in N. Africa, 394
- Kikuyu, see Akikuyu
- Kilimanjaro, 21; and explorations of Krapf, 669; and glaciers, 102; population near, 32; and terracing, 157
- Kiln, for burning pottery, illus., 632
- Kindred, customs relating to, among Tuareg, 371; names of kin given, 436
- King, and agriculture, 398-404; attired in bark cloth, 644; becomes a god, Jukun belief, 547; ceremonially killed, 75; and clan organization of Baganda, 486; Faruk, of Egypt, 673; Fuad, of Egypt, 673; house of meditation for, 495; and legal system, 509; as owner of all cattle, 349; polygyny of, 418; presented with one of triplets, 433; privilege of, in weighing gold dust, 612; sacred, in Ashanti, 548, among Bantu, 554-555, in Dahomey, 550, in Egypt, 74, among Jukun, 552, among Nilotic Negroes, 553-554, among Ovimbundu, 555, summary of sacred attributes, 555-556, among Yoruba, 551; sacred character of, 514, 548-556; seriousness of offenses against, 510; Solomon, 55, and Zimbabwe, 87; succession and descent of, through females in Ashanti, 488
- Kingdom, as a unit of government, 495-497
- Kingfishers, 68
- Kingsley (Mary), explorations of, 661
- Kinship, among Kababish, 384; literature relating to, 475; organization among Bushmen, 336; rules and divorce, 422; terms used by Ovimbundu, 469-475; see Family, Kindred
- Kipsigi, ancestors and conduct of, 566
- Kirk (Sir John), 667
- Kish, Arabs of, and their physical measurements, 190
- Kisongo Masai, punishment of murder by, 519
- Kitchener, defeat of dervishes by, 680; and rebellion of Mahdi, 671
- Kitchens, one for each wife, 419
- Kivu, reservation for preserving wild animals, 688

- Knapsacks, of fiber, 48
- Knives, for throwing, 525-526; used in wood-carving, 614; see Daggers
- Kohl, 392; for eyelashes in Tibesti, 373; used in Egypt, 262; used by Tuareg, 366
- Kola nuts, and blood brotherhood, 493; brass bowls for holding, 632; ceremonially used, 48; exported from Sierra Leone, 675; produced in Nigeria, 675; as symbolic message, 321; wooden boxes for, illus., 618
- Kola nut tree, and ceremony with umbilical cord, 440; as totem in Liberia, 487; uses of, 48
- Kom Ombo, 114; plain in Egypt, stone implements from, 111
- Konakry, railway center, 683
- Konde, physical measurements of, 179
- Kongo (kingdom of), and Portuguese influence in, 652; see Belgian Congo, Congo
- Konkomba, use of arrow poison by, 524
- Koran, 85; recitations from, at funeral in Tibesti, 374; teaching of, 388, on divorce, 371; and treatment of slaves in Libya, 377; see Mohammed
- Korana, language is Hamitic, 300
- Koranic law, and property of Kababish, 385; and slavery, 535, 537; see Mohammedanism
- Koranic texts, as charms, 274; copied by children, 306; repeated over cattle, 359; in Tibesti, 373; worn by Tuareg, 364; written on boards, 392
- Kordofan, camel caravans of, 680; caravan route from, 375; cattle customs in, 56, 358; crossed by Nachtigal, 656; early exploration of, 82; hard woods and gums from, 48, 680; and Italian exploration, 670; life of Kababish in, 380-387; Nuba terrace hillsides in, 586; rock engravings in, 143; rock paintings in, 145; seasonal migration in, 34
- Kosti, modern bridge at, 680
- Kotonu, in Dahomey, 683
- Kowar, oasis in Sahara, 361
- Kpelle, divorce among, 422; totemism among, 487
- Kra, Ashanti term for a soul, 75
- Kraal, ceremonial use of, in puberty rites, 358; of king, Banyankole customs in, 349; of murderer raided, 519; as place of burial, 352; sacred fire in, 356; see Cattle
- Krapf, explorations of, 669
- Kruger Park, reservation for preserving wild animals, 688
- Krugersdorp, human fossil found at, 95
- Kufra, cultivation of gardens in, 375; dates used in, 50; oasis in Libya, 374; and rock engravings, 144; and slave trade, 536
- Kuka, visited by Barth, 655
- Kulturkreis, 134, 723; see Culture, Migrations
- Kumasi, handicrafts located at, 643; railway communications from, 675
- Kumba, agricultural deity of Sierra Leone, 401
- Kunene River, in S. Angola, 356
- Kung Bushmen, of Angola, 212; illus., 211; prayer of, 334; stature of, 213
- Kunu, a porridge, 48
- Kus-kus, a Berber-Arab food, 394
- Labor, conditions for Africans and literature on, 698; division of, 341, 360, in agriculture, 398, 587, among Bushmen, 332, in house building among Ovimbundu, 620, in making pottery, 622, among Tuareg, 367-368, in weaving, 636; laws, imposed by Europeans on Africans, 696-698; in mines, 25, 26; ritual connected with, 642-645; see Handicrafts, Occupations
- Lactation, in Bushman tribe, 338; duration of, 431; by a foster mother, 433; weaning, 438; see Birth, Infants
- Lacustrine features, 22; see Fresh water systems; Lakes, for example, Chad, Tanganyika, Victoria Nyanza
- Lagos, 676; climate near, 32; decline in infant mortality in, 692
- Laing (Major), and Timbuktu, 654
- Lakes, 21-22; dried up, 30; and geological research, 28; sacred, no fishing there, 604
- Lambas, beliefs of, regarding twins, 435; cosmology of, 544; dreams explained by, 582; functions of village units among, 496
- Lamy, a French commander, 657
- Land, distributed by chiefs, 496; grazing rights on, 352; laws of ownership of, 512-513; ownership and European administration, 415; see Agriculture
- Lander brothers, explorations of, 659
- Landins, physical measurements of, 178
- Lango, clans and totems of, 490-491; desire twins, 440; divorce rules among, 423; marriage customs of, 415; use iron wristlets for fighting, 526
- Languages, 72-87; 288-322; adopted by hunting tribes, 347; African, as medium of study in African schools, 709; classified, 289; future research necessary on, 726; general textbooks

- on, 290; Greek, 81; of hunters, 347; migration of, in Africa, 290; mixture of, 288, 289; of Phoenicians, 79; recorded in the field, 322; secret, during initiation, 464; by signs, 318, 319; of Tibesti, 372; and trade, 288; see Bantu, Bushmen, Hamitic, Semitic, Sudan
- Lapidaries, in Egypt, 73; see Armlets of stone, Beads, Soapstone, Stone
- Law, 506-520; on adultery, 514; and age-grades, 502-506; among Bushmen, 337; and cattle among Dinka, 351; cattle important in, 354; and chieftainship, 509; and clan organization of Baganda, 486; of divorce, 419-424; enforced by secret societies, 498-502; European, in S. Africa, 678; of inheritance, 511-512; and land ownership, 398, 512-513; of Mohammedans, 388; on murder, 515-519; and punishments, 510; and religion, 507, 508; and religious rites, 566; responsibility to, 509, 510; sanctions of, 506; sociology and establishment of principles on, 720, 722-725; summary and literature on, 520; on theft, 515
- Lead, mined in S. Africa, 678
- League of Nations, 673; and conditions in Liberia, 697; and views on labor laws for Africans, 698
- Leather, 635; apron used in Tibesti, 373; as arm and leg ornaments by Bushmen, 330; buckets of, 394; for clothing, 270, among hunters, 346; goods made in Kufra, 375; pads for feet of camels in Libya, 375; for sandals, 364; shields of, 522; trap-pings for camels among Kababish, 382, for horses and camels, 392; work in ancient Egypt, 73; see Hides, Skins, Tanning
- Leaves, as clothing, 270, illus., 268; for covering dead totem animal, 491; keep steam in cooking pot, 588; made into magical preparations, 438; of manioc, how eaten, 588; of palm, raffia fiber from, 636; as seasoning, 48; of tobacco, how prepared, 588; worn as a sign of motherhood, 438
- Lebanon, 78
- Leghoya tribe, and stone buildings, 157
- Lemons, 50
- Lenz, explorations of, 656; and explorations of Ogowe River, 664
- Leo Africanus, and exploration of Niger, 654
- Leopard, 60; as clan emblem, 488; contains soul of man, 562; hunted by Bushmen, 334; imitated in games 444; and secret society, 61; Society of Sierra Leone, 499; a totem in Liberia, 487
- Leprosy, 71; source for study of, 697
- Leptis Magna, in Tripolitania, 80
- Lesbianism, 426
- Levalloisian culture, term defined, 104; in Uganda, 122
- Levirate, 416; under Mohammedan law, 390; in Tibesti, 374
- Liberia, catfish sacred in, 67; colonization and development of, 674; and drum language, 321; and fair conditions of native labor, 697; forests of, 32; Harvard expedition to, 71; an independent territory, 674; initiation in, 464; palms in, 46; pawning of slaves in, 540; present government of, 673; proverbs from, 309; stone statuettes from, 136; survey of, 152; tie-dyeing in, 636; totemism in, 487; twins welcome in, 440
- Libya, desert of, airplane photographs of, 24; engravings on rocks of, 141; explored by Browne, 669, by Rohlf, 656; Hamitic language of, 299; an Italian possession, 685, 686, 688; life in the oases of, 375-377; marked on Strabo's map, 650; oases of, 374; rock engravings of, 143
- Libyans, historical importance of, 78; pigmentation of, 252; symbols of, 138; at war with Romans, 82; writing of, 302, 305
- Lichtenstein, explorations of, in S. Africa, 666
- Limpopo River, a political boundary, 678
- Linguistic changes, very rapid, 289
- Lions, 60; a Ba-ila totem, 485; hunting of, and magic, 598; probably extinct in Air, 362; in rock sculpture, 140
- Lips, mutilated, 262
- Lisa, rules the sun in Dahomey, 546
- Litham*, Tuareg veil, 362
- Livingstone, explorations of, 667
- Livy, Roman historian, 54
- Lizards, old women reincarnated in, 561; skin of, for covering musical instruments, 453
- Loanda, founding of, 652; railway communications with, 685
- Loango Coast, explored by Marchand, 665; wooden figure with nails driven in, illus., 579
- Lobi, clans of, 490; demography of, 692; physical measurements of, 169
- Lobito Bay, railway communications with, 685
- Lobo (Father), travels of, 653

- Lobola*, a dowry of cattle, 354; used by Bavenda, 411; see Cattle, Marriage, Zulu
- Locusts, destructive, 70; eaten by Ovimbundu, 608; food, Bushmen, 329
- Lokoja, diseases of horses near, 71; and early exploration, 660; trade by steamers, 676
- Lome, port of Dahomey, 683
- London, air service from, to Africa, 677
- Looms, African types of, 636; in ancient Egypt, 73; used by Bedouin Arabs, 382; used in Tunisia, 394; see Cotton, Raffia, Weaving
- Lotuka, clans and totems of, 492
- Lotus blossoms, in Egypt, 23
- Lourenço Marques, railway communications of, 685
- Lualaba River, explored by Cameron, 663, 668; see Congo, Livingstone, Stanley
- Lubango, railway communications, 685
- Lüderitz Bay, railway lines, 676
- Luenä, physical measurements of, 176
- Luimbe, physical measurements of, 176
- Lunates, stone implements of Uganda, 123
- Lunda, diamond mines in, 26; Negro military organization of, 527
- Luvando, female types of, illus., 268; hair dressing of, 270
- Lying, disapproved by Ovimbundu, 443
- Lymph system, and parasitic worms, 70
- Lynx, hunted by Bushmen, 334
- Machete, for slitting palms, 42
- Maguas, physical measurements of, 178
- Madagascar, boa in, 64; method of making fire in, 592; rice grown in, 42; stone monuments of, 156; sugar cane grown in, 42; types of canoes in, 604
- Madeira Islands, discovered, 651
- Magdalenian period, 103; see Archaeology, Stone implements
- Magic, 570-585; associated with weaving, wood-carving, and pottery, 644; of Bushmen, 345; charms used in, 274; at childbirth, 429-436; connected with occupations, 642-645; and dancing, 447; and methods of slaughtering cattle by Bavenda, 595; in preparation of arrow poison, 524; and protecting body in warfare, 522; and rainfall, 350; and rites of Pygmies, 345; and secret societies, 498-502; in Siwa oases, 393; types of, 571; see Medicine-men, Religion, Sorcery, Witchcraft
- Maglemosean culture, 104, 106
- Magosian culture, and stone implements of east Africa, 119; in Uganda, 121
- Mahdi, 671, 680; Rabeh deserted from, 665; see Eastern Sudan, Kitchener
- Mahogany tree, ceremony before felling, 402; used in wood-carving, 44, 614
- Mahou, a god of Dahomey, 545
- Maiduguri, fishing operations near, illus., 607; gourds ornamented at, 620; nature of market trade in, 610
- Mail, armor used, 56; worn by horsemen, illus., 391
- Maistre, explorations of, 665
- Maize, from America, 40; cultivated in W. Africa, 682; exported from S. Africa, 44; grown by Bathonga, 402; in Kufra, 375; location of growth of, 42; method of pounding, among Ovimbundu, 588; sowing of, and time reckoning, 436; see Agriculture, Cooking
- Makalanga tribe, dislike of twins among, 434; near Zimbabwe, 87
- Makurdi, modern bridge at, 676
- Malamini, and French colonial expansion, 665
- Malange (Angola), railway communications, 685
- Malaria, and decline of population, 693
- Malekites, a Mohammedan sect, 388
- Mali Empire, 85
- Malindi, touched by Vasco da Gama, 651
- Mallams*, of Algeria, write texts, 395; make charms, 392
- Mallets, for beating bark cloth, 627
- Mamba, poison of, used by Bushmen in treating wounds, 339
- Mammals, 52-64
- Manatee, penis eaten to give virility, 578; sacred, 489
- Mancala*, a game, 445
- Mancas, physical measurements of, 178
- Mandari, physical measurements of, 181
- Mandates, French, 683; political divisions under, 672; of Tanganyika Territory, 679; for territory in S. W. Africa, 677; see Liberia, Togoland
- Manding, kinship and descent at, 480
- Mandingo, build Kingdom of Melle, 87; clan system of, 487; defeat of, by French, 658; descent reckoned through females, 480; joking relationship, 492; language suitable for wide adoption; 704; produce leather goods, 635; stage play among, 319; trade language of, 288
- Manganese, mined in Ashanti, 675

- Mangbetu, skull deformation of, 208, 262
- Mangoes, grown in Ashanti, 675
- Manillas, as currency, 612
- Manioc, from America, 41; species cultivated by Ovimbundu, 587; where grown and varieties, 44
- Mansur, crossed the Sahara, 55
- Mantis, 70; in Bushman folklore, 338
- Manufactures, of Phoenicians, 79; see Handicrafts, Labor, Occupations
- Manure, not used by Bathonga, 403; used in Nigeria, 401
- Maps, of air routes to Africa, 677; of archaeological sites in Europe, 103; of motor transport in Sahara, 681; old ethnographical, 81; of paleolithic sites in north Africa, 114; prepared by early geographers, 650-651; recommended for students, 672-673; of Rhodesia, 678; showing distribution of hunting apparatus, 600; showing distribution of types of looms, 636; sites where fossil man was discovered, 92; sources recommended for, 28, 29; of Tanganyika Territory, 679; see Table of Contents for list of maps in this work
- Mapungubwe, archaeology at, 89, 763
- Marabouts*, Mohammedan holy men, 86, 394
- Maradi, cattle used as transport near, 357
- Marchand (General), explorations of, 665
- Marcus Garvey, and schemes for uniting Africans, 699
- Maria Theresa dollar, value of, in cowrie shells, 611
- Marimba*, how played, 452; music of, 456
- Marionettes, and bazaars, 390; history of, 320; used by Hausa, Ibibio, 319
- Maritime enterprise, 649-653
- Markets, ceremonies observed when founding, 611; large in Nigeria, 610; murderers executed in, 516; of Nigeria, food supplies in, 606; slaves sold in, 535; see Kano, Omdurman
- Marrakesh, founding of, 86
- Marriage, African and European ideas clash, 702; and age-grade authority, 506; approval of ancestors needed, 566; cattle given to bride's parents in, 354; ceremonies of, in Tibesti, 374; ceremonies of, among Tuareg, 370; and clan relationships, 484-493; complex forms of, 414; customs of, among Bushmen, 337; forbidden to warriors, 530; and head-hunting, 532; among Kababish, 384, 386; in Lango tribe, 491; in Libyan oases, 377; and membership of secret society, 500; of Negroes, 409-419; and payment of cattle, 354; prohibitions, 478, see kinship terms; and sacrifice to ancestors among Shilluk, 564; summary of Negro beliefs, 416; see Divorce, Lobola, Polygyny
- Marshes, of upper Nile, 23
- Masai, attitude toward blacksmiths, 643; cattle customs among, 352-354; destructive wars against, 691; divided between political units, 672; ears mutilated among, 262; illus., 203; initiation of boys, 466; language, Hamitic, 300; physical measurements on, 199; shields of, 522; tribal movements of, 245; wire ornaments of, 274
- Mashona, husband serves wife's family, 411; see Matriarchy, Matrilocal
- Masks, of bronze, 630; carved from wood, 616; worn during initiation in Angola, 460; worn in secret societies, 500
- Massage, of newly born infant, 432
- Massari, explorations of, 670
- Massawa, Portuguese penetrated at, 653; railway connections of, 686
- Masturbation, 427
- Masudi, Arab geographer, 52, and historian, 87
- Matabele, custom of preserving enemies' skulls, 532
- Matches, Negroes obtain, 592
- Material culture, textbooks on, 28; see Handicrafts, Occupations
- Maternal relationship, most important, 479; see Ashanti, Bakongo, Matriarchal, Matrilocal, Mother-right
- Matoba Hills, rain-making ceremony in, 578
- Matriarchal system, defined, 476; and traits among Kababish, 384; and women's work in agriculture, 587
- Matrilocal conditions, 412; among Kona and Jibu, 413; and marriage among Bushmen, 337
- Mats, of bride displayed in Tibesti, 374; of fiber, 42; of king, sacred, 507; made by Kababish, 382; made in Kufra, 375; of raffia, 636; used in house structure of Tibesti, 373; used by Tuareg, 366
- Matteuci, explorations of, 670
- Maud, explorations of, 670
- Mauretania, explored by Oscar Lenz, 656; a French possession, 683; gums from, 48; Jewish colony in, 84

- Maydon, explorations of, 670
 Mazices, 144
 McGregor Laird, expedition of, 660
 McGuire, explorer, companion of Vogel, 656
 Mealies, see Maize
 Meals, etiquette at, 395; etiquette of, among Bedouins, 377; kinds of, among Ovimbundu, 588; see Cooking, Diet, Food
 Measurements, ranges and terms used in, 163, see Tables 1-8; of substances and distances by primitive methods, 613; see Anthropometry
 Meat, of camels eaten by Kababish, 383; of cattle not used as food, 356; ceremonially eaten by Ovimbundu, 539; eaten at age-grade ceremonies, 503; methods of preservation of, needed, 596; seldom eaten by Fulani, 358; supplied to Zulu troops, 530; used by Tuareg, 367; see Agriculture, Cattle, Goats, Pastoral pursuits, Pigs, Sheep
 Mecca, face of corpse turned to, 370; pilgrimage to, 537; Prophet's flight from, 390; temple at, 387
 Mehta man, 115
 Medicine, for cattle, 356; kept in horns, 274
 Medicine-men, 561, 570-585; administer poison ordeal, 507; and age-grade ceremonies, 503; and agriculture, 398-404; among Bushmen, 339; concoctions of, 274; discover fate of soul, 563; functions of, summarized, 575-580; make arrow poison, 524; and new village site, 496; not among Tuareg, 371; prepare warriors, 531; send souls into animals, 60; specialization of, 575; use feathers, 68; use parts of dead, 565; use quills of porcupine, 62; see Ancestor worship, Magic, Religion, Sorcery, Witchcraft
 Mediterranean, region, and Aurignacian man, 129; climate of, 34; communication with Timbuktu, 683; exports to Libyan oases, 375; land bridges across, 19; and Phoenicians, 78; products of, 50; race, branches of, 228, and its migrations, 248, physical features of, 248; rivers of, 31; Roman power in, 80; and stone monuments, 152; strategic position of, 673; varieties of man in, 251
 Megaliths, 152-159; and human migrations, 155
 Mela, early map of, 650
 Melle, kingdom of, 87
 Memphis, conquered by Assyrians, 78
 Mende tribe, secret societies of, 500; stone figurines from, 136; trade language of, 288
 Mendel, and genetics, 232
 Menhirs, 153, 158; see Stone monuments
 Menstruation, and initiation, 462, 465; milk forbidden during, 350; and taboos against weaving, 644; and time of marriage, 412; see Initiation, Taboos
 Menufie, Egypt, population of, 32
 Merolla, early missionary, 652
 Mesopotamia, cultural relations of, with Egypt, 112
 Messages, by symbols and drums, 320-322
 Messengers, of king, carry out sentences, 509; in warfare, 531
 Metabolism, differs with race, 236
 Metallurgy, and archaeology, 100; at Zimbabwe, 89; see Bronze, Copper, Gold, Iron, Tin
 Metals, general uses of, in Africa, 628
 Metamorphosis, from human to animal form, 61
 Metropolitan Museum of Art, New York, Mohammedan art in, 85; musical instruments in, 456
 Mézièred, archaeologist, 87
 Mice, caught in cane traps by Ovimbundu, 608; many species of, 62
 Microliths, 114, 121, 126
 Midgan hunters, 77
 Midwives, naming of child by, 439; see Birth, Childbirth
 Migration, ancient, in E. Africa, 157; of animals, 59; of cattle-keepers, 354; of colored laborers in S. Africa, 677; of culture, 72-89; of culture from Indonesia, 604; of early human types, 227-229; of Hamites and Semites, 248; of Herero, 356; human, 24, in Africa, 242-254, and physical features of country, 21; in north Africa, 251; and the Pleistocene, 19, in south Africa, 71, and stone monuments, 159; of plants, 38; seasonal in Kordofan, 34; of Tuareg, 253
 Military organization, general account, 527-533; of Zulu and Masai, 691
 Military service, and age-grades, 498-505; see Masai, Wahehe, Warfare, Zulu
 Milk, addition of baobab pod juice to, 48; aversion to, by Negroes, 595; and blood brotherhood, 493; of camels drunk by Kababish, 383; of camels and goats in Tibesti, 374; drunk with

- blood, 352; of goats used by Kababish, 383; magically used in war, 529; prejudice disappearing among Ovimbundu, 694; as royal diet among Banyankole, 349; as symbol of peace, 352; used by Tuareg, 366
- Milking, customs, 356; as indication of military age among Zulu, 530; not by menstruating women, 358; while drums are played, 354; work of men only, 349; see Cattle
- Millet, 40, 46; in Air, 50; grown by Tuareg, 366; sowing rite of, among Bathonga, 402
- Mind, see Psychology
- Mindel glaciation, 104
- Minerals, 24; exported from Ashanti, 675; future development of, in Abyssinia, 687; of Nigeria, 675; wealth of, in Tunisia and Morocco, 681; see Copper, Gold, Iron, Silver, Tin
- Mining, conditions of African laborers, 698; of copper, 25; native labor employed in, 696; in Rhodesia, 677; in South Africa, 677; see Literature on minerals and mining, 628, 630, 632
- Minoa, goddess of women in Dahomey, 563
- Miocene period, and anthropoids, 91; Dryopithecus in, 95
- Miscarriages, and high death rate, 693
- Miscegenation, of Arabs and Negroes, 86; of cultures, 326, 328; of races, 233; see Culture areas, Languages, Physical anthropology
- Missile weapons, 525
- Missionary enterprise, of De Foucauld in Sahara, 657; of Portuguese, 652; views of, on educability of Africans, 702-709
- Missions, and education, 707
- Mittu, and explorations of Schweinfurth, 670; use iron wristlets for fighting, 526
- Mixture, of physical types in Africa, 240-254; see Culture, Migrations
- Mjauas, physical measurements of, 178
- Moat, an earthwork near Benin, 522
- Moffat, and education of Africans, 705; missionary enterprise of, 666
- Mohammedanism, 387-393; in Abyssinia, 358, 687; in art, 85; and camel cultures, 361-378; and changes in kinship systems, 483; effects of, on Negro life, 708; effects of, on Negro religious beliefs, 546; influence of, on kinship systems, 474; in Libyan oases, 376; in Tunisia, 394
- Mohammedans, charms of, 274; culture of, 84-87, see Arabs, Semites; disapprove of body marks, 260; elements of culture of, 379-397; festivals and stage shows of, 319; religion of, adopted by Tuareg, 369; rites of, and welfare of cattle, 359; schools of, 306, illus., 307
- Molds, used in bronze casting, 630; at Zimbabwe, 89
- Moles, 62
- Moloch, God of Phoenicians, 79
- Molopo River, 678
- Mombasa, Turks defeated near, 89
- Momvov, physical measurements of, 173
- Monasteries, of Sinai, 81
- Monbuttu, ivory carving of, 634
- Money, 611; beeswax used as, 608; of copper, 25; of paper used in Angola, 610; tobacco used as, 588; see Commerce, Cowries, Currency, Trade
- Mongoloid features in Negroes, 229
- Mongoose, illus., 65
- Monkeys, 91; clan emblem among Lango, 491; said to teach writing, 309
- Monogamy, modern tendency to, among Negroes, 418, and Pygmies, 206, 342
- Monoliths, 80; and moon worship among Jukun, 552; see Menhirs, Stone monuments
- Monomotapa, efforts to Christianize, 653
- Monophysites, an early Christian sect, 81
- Monteiro, explorations of, in Angola, 664
- Monuments, of stone, 152-159
- Moon, children presented to, 437; and goddess Mawu in Dahomey, 546; and pastoral ceremony, 352; reverence for, by Bushmen, 338; a symbol of kingship, 552; symbolism of, in Ashanti religion, 545; in time reckoning among Jukun, 593; in time reckoning among Ovimbundu, 592; see Cosmology
- Moor, explanation of the term, 395
- Morality, conflicting ideas of Christianity and African culture, 707; and education of Africans, 698-710; and Mohammedanism, 392; sexual, 410-411, 424-428; taught to children, 442-443; of Tuareg, 369; and wishes of ancestors, 565; see Age-grades, Cousins, Initiation, Kinship rules, Law, Ordeal, Punishments, Religion, Secret societies
- Morals, in proverbs and folklore, 309-315
- Morocco, Arabic dialects in, 301; a center of leather work, 635; gums

- from, 48; Jews in, 83; locusts eaten in, 70; political, commercial, 681; political development of, 682-683; rainfall of, 38; Spanish concessions to France, 688; treatment of slaves in, 535
- Mortality, of Africans, 690-696; see Census, Demography, Diseases, Health, Welfare
- Mortars, for grain among Tuareg, 366; not used at Zimbabwe, 88; for pounding food among Bushmen, 331; used as a drum by Tuareg, 370
- Mosaics, in Mohammedan architecture, 392
- Moselekatze, Zulu leader, 530
- Moshi, and joking relationship, 493
- Mosquitoes, 70
- Mossamedes, founding of, 652; railway communication with, 685
- Mossel Bay, caves explored near, 124
- Mossi, language of, suitable for wide adoption, 704; physical measurements of, 169; resist Mohammedanism, 86
- Mother, meaning of, in Negro kinship, 478; right, 410-413, and succession to throne in Ashanti, 549
- Mother-in-law, 482; attitude by Bushmen toward, 337; avoidance of, by Kababish, 384; avoidance of, by Ovimbundu, 478; receives presents, 412; see Taboos
- Mother's brother, debts paid for, 539
- Mountains, 21; and rainfall, 38
- Mourning rites, among Ovimbundu, 558
- Mousterian, stone implements in south Africa, 127; technique in Egypt, 110
- Mozambique, exports from, 685; physical measurements of tribes in, 178
- Mucilage, 686; for snaring birds, 608; see Gums
- Mukuru, a god, giver of fire, 356
- Mulattos, European attitudes toward, 699; see Hybrids, Miscegenation, Mixtures
- Mummies, and amulets, 74; of birds, 68
- Mundong, measurements of, 170
- Mungu, God of Pygmies, 345
- Munshi, age-grades among, 506; and early exploration, 660; hunter, illus., 597; measurements of, 168; scarification of, 258, illus., 259; use arrow poison, 524; use harpoons for fishing, 603; wire ornaments of, 274
- Mural art, in Egypt, 54; see Bushmen, Cave paintings, Colors, Petroglyphs, Pictographs
- Murder, clan responsibility for, 485; compensation for, in salt, 591; extenuating circumstances of, 517; penalties for, 352; by secret society, 499; of wife's seducer, 422; see Blood feud, Blood money
- Murzuk, caravan trade from, 395; early exploration of, 655; rock sculpture near, 137
- Musa, see Banana
- Museums, educational value of, in Africa, 708
- Mushroom, symbolism of, in dreams, 582
- Music, of Bushmen, 334; in Libya, 377; among Mohammedans, 390; played to sick camels, 375; recorded in the field, 322; and songs, 316-318; technique of, in Africa, 454, 455, 456; of Tuareg, 370; and whistling, 318
- Musical bow, 452; of Bushmen, 336; instruments, 448-456, illus., 449, used by medicine-men, 575; played in the game, 445
- Musicians, playing drum and algaita, illus., 389
- Musk, from civet cat, 62
- Mutilation, of body, 258-266; under Mohammedan law, 388; of sex organs among Kababish, 385; and trial by ordeal, 507; see Circumcision, Clitoridectomy, Ornament, Tattooing, Teeth
- Mutton, eaten by Kababish, 383; as food in Libyan oases, 375; see Sheep
- Mwanza, python worship at, 350
- Mythology, 313, 314; and agricultural rites, 402; and clan system, 487; of Egypt, 23, 54, 74; and founding of a clan, 488; and heavenly bodies among Lambas, 544; and history, 72; resulting from dreams, 582; see Folklore, Gods, Heroes, Religion
- Nachtigal, explorations of, 656
- Nagile, a water-pipe smoked in N. Africa, 394
- Nails, of fingers allowed to grow long, 266; of fingers stained with henna, 373; magical use of, driven into wooden figures, 578, illus., 579; not used in woodwork, 383
- Nairobi, Jeanes School at, 706; a modern town, 679
- Nakuru Culture, of E. Africa, 119
- Nama Hottentots, language of, 291; language, Hamitic, 300; physical measurements of, 213
- Names, and age-grades, 467; change of, 435; changed at initiation, 465; of dead not mentioned, 435; given to

- children, 435-441; plurality of, 441; in secret societies, 500
- Namib Bushmen, make intoxicating liquor, 332
- Nandi, age-grade organizations of, 503; charms used by women among, 585; initiation of boys among, 465; shields of, 522; supply objects to Dorobo, 347; totems of, 492
- Nankanse, and joking relationship, 493; kinship system and attitudes of, 481
- Napoleon, political effect of his defeat, 658
- Naraguta, stone circles near, 153
- Narcotics, in N. Africa, 394; see *Bang*, Hashish, Hemp, Opium, Snuff, Tobacco
- Naron Bushmen, animals hunted by, 334; grammar of language of, 292; houses of, 330; stature of, 213
- Nasal index, 232; see Physical anthropology, Tables 1-8
- Natal, political, 677; stone implements of, 123
- National Geographic Magazine, 29
- Natron, 27; from Chad, 26; transported in canoe, 604
- Natural history, source books on, 51, 52
- Nature lore, of Negroes, 604-609
- Navigation, see Canoes, Exploration, Maritime enterprise
- Navigators, Arab, Persian, and Indian, 76; see Portuguese
- Neanderthal man, distribution of, 226; and *Homo rhodesiensis*, 94; in North Africa, 115; and Rhodesian man, 94
- Neanthropic man, 130
- Necho, and voyage of Phoenicians, 649
- Negritos, possible origin of, 228; see Bushmen, Pygmies
- Negroes, achievements of, in Africa, 701; admixture of, in Badarians, 112; blood group tests of, 239; as cattle keepers, 354-356; cultural classification of, difficult, 407; cultural classification and future research necessary, 726; culture of, 407-625; culture traits briefly summarized, 703, and divisions of culture, see Table of Contents, section III; dispersal of, in Africa, 243; divisions of, 163; element of, in Tripolitania, 396; influence of, on Kababish, 253; kinship system of, among Tuareg, 474; main somatic traits of, 164; measurements of, 163-186; mixed with Hamites, 253; mixture with Egyptians, 250, 251; Mohammedanized, 85; physical measurements of eastern, 177-180, of Nilotic, 181, of southern and southwestern, 175-177; physical traits of, 234; physique of American, 164; as slaves among Tuareg, 366; vigor of population of, 691, 693; as writers, 701; writing of, 304
- Neolithic age, 103; in Congo region, 133; and cultural divisions in north Africa, 115; cultural subdivisions of, in Europe, 106; culture of, in Egypt, 73, 111; and culture of Uganda, 122; human fossils of, in north Africa, 99; implements of, in Faiyum, 108; implements, and rock engravings of, in north Africa, 142; people of, in Gafsa and Tebessa, 116; and stone monuments, 155; in west Africa, 134
- Nero, and exploration of Nile, 650; Roman emperor, 23
- Nestorians, 81
- Nests, robbed by boys, 608; see Birds, Collecting, Ostrich
- Nets, used in fishing, 67, 603; used in hunting, 342
- Netting suits, for boys during initiation, 460
- New Empire of Egypt, and cattle, 56
- New Testament, and stories in Koran, 388
- New world, plants from, 41; see America, Culture migration, Slave trade, South America, United States of America
- New York, 20
- Ngalangi, burial hut for kings at, 495; cupping operation near, 577
- Ngami Lake, exploration of, 666; and explorations of Livingstone, 667
- Ngbe, secret society of Nigeria, 500
- Niamey, armor used at, 383
- Niger, 22; Arab kingdom near, 85; barley grown near, 50; historical, 82; Jewish migration along, 84; measurements of tribes of, 171; rice grown near, 42; and Songhai empire, 87
- Nigeria, agricultural rites in, 400-401; albinos in, 255; armor for horses in, 524; bees kept in, 609; blacksmith's occupation and ceremony for, 643; brass casting in, 632; Carthaginian influences in, 80; catfish sacred in, 67; cattle in, 56; census of population of, 692; climates of, 21; copper and tin found in, 630; cross-bows used in, 600; drum language in, 321; education in, 709; exploration of, 654-661; firearms sold at, 526; fishing with harpoons in, 603; forests in, 32; Fulani, illus., 271; gourds of, illus., 623; groundnuts from, 41; head-hunting tribes in, 532; initiation customs of Ekoi of, 466; kola trees grown in, 48; large markets of, 68,

- 610; ornamentation of gourds at, 620; political and commercial, 675; polyandry in, 417; population of, 32; priests of, illus., 573; raffia mats in, 42; rainfall of, 34; sacred kings of, 552, see Jukun, Yoruba; school of forestry in, 44; secret societies in, 500, 501; stone implements from, 135; stone monuments in, 153; temperatures of, 32; terra cotta heads from, 136; totemism in, 489; use of armor in, 383; walled cities of, 522; warfare in, 56; wood-carving of, 44
- Nightjars, 68
- Nikaia, supernatural being of Shilluk, takes form of a crocodile, 568
- Nile River, 22; early exploration of, 650; exploration of, 668-671; gum trees near, 48; rice grown near, 42
- Nile Valley, Arab dynasties in, 85; a cultural zone, 325; date palms in, 48; historical, 73-78; population of, 32; sugar cane grown in, 42; wheat grown in, 50; see Egypt
- Nilotic Negroes, 23; cultural classification of, 407; have plows, 586; initiation rites of, 466-467; kinship system of, 474; marriage customs of, 415; physical measurements of, 180-181; religious belief of, 547; totems and clans of, 490; see Anuak, Bari, Didinga, Dinka, Nuer, Shilluk
- Njoroan culture of, east Africa, 119
- Nkundu Negroes, of Congo, Pygmies associated with, 208
- Nobatae, ancient tribe, 81
- Nomadism, in Aurès Mountains, 395; among Bushmen, 329-340; among Fulani, 358; among Kababish, 382; in Libya, 375; in north Africa, 397; in Tibesti, 373; among Tuareg, 54; in Tunisia, 394; see Camel culture, Hunting, Pygmies, Sahara
- Nomori figurines, from west Africa, 136
- Northern territories, 675
- Nose, of Africans, summary on, 222; a flute for, 452; mutilated, 262; ornaments for, in Tibesti, 373; see Nasal index, Physical anthropology
- Novo Redondo, explorations near, 664
- Nsibidi writing, 302; of Efik, 308
- Nuba, physical measurements of, 181; terrace hillsides for cultivation, 586
- Nubae, 144
- Nubia, stone implements of, 109
- Nubian Desert, railway over, 680
- Nudity, 270
- Nuers, 23; clothing not used among, 270; initiation of boys among, 467; physical measurements of, 181
- Numidians, horsemen among, 55
- Nupe, brass work of, illus., 631; kola trees grown by, 48; making of gourds by, 620
- Nurab, a section of the Kababish, 383
- Nutrition, and social organization, 469; sociological effects of, 694; see Agriculture, Cattle, Diet, Domestic animals, Food
- Nuts, magical use of, 525; from palms, 42; see Groundnuts, Kola nuts
- Nyakang, God of Shilluk, 547
- Nyame, God of Ashanti, 545; sky God and celts, 135
- Nyasa Lake, drainage of, 678; and explorations of Livingstone, 667
- Nyasaland, albinos in, 255; ancient terracing in, 157; educational possibilities in, 702; products and communications of, 678; tribal mixture in, 246
- Nzambi, defined 548; a Negro god, 543
- Oases, 34; date palms in, 48; illus., 43; of Kharga, 24; of Libya, 374, 375, conquered by Italians, 691, and rock engravings, 144; near Aurès Mountains, 395; now lost, 144; of Sahara, Jews in, 84, population in, 32; stone implements in, 112; of Tunisia, 394; of Yarda and rock engravings, 142; see Bilma, Kharga, Kufra, Siwa
- Oaths, administered by medicine-men, 578; in legal procedure, 507; and marriage rites, 566; taken by God Buku, 545; taken on sacred spear, 519
- Oats, 50
- Obba, of Benin encourages handicrafts, 630
- Obosum, Gods of Ashanti, 412
- Obscenities, 285
- Occupations, ritual connected with, 642-645; see Agriculture, Camel culture, Handicrafts, Hunting, Labor, Pastoral pursuits
- Ocean, and climate, 20
- Ogbomosho, gourds ornamented at, 620; making pottery at, illus., 633
- Ogboni, 501; league and secret messages of, 320
- Ogowe River, exploration of, by Du Chaillu, 662; explored by Lenz, 664; Pygmies near, 206
- Ogun (God of war), and blacksmiths, 547; and Yoruba, 489
- Oil, methods of obtaining from palms, 675; mineral, prospecting for, in Angola, 685; from oil palm, as food, 44; for proposed Saharan railways, 682

- Oil palm, 41, 43; as totem in Liberia, 487
 Okapi, hunted by Pygmies, 59
 Okiek (Dorobo), hunters of east Africa, 346
 Old Calabar, brass casting at, 632; initiation ceremonies at, 466
 Oldowan culture, 122
 Oldoway, and fossil man, 97
 Old Testament, customs like those of Kababish, 382; and Semitic customs, 84; songs, 383; and stories in Koran, 388
 Oligarchy, 501; see Age-grades, Secret societies
 Olive oil, produced in Siwa, 393; from Tunisia, 681
 Olives, 40, 50; grown in Algeria, 395
 Olorun, a Yoruba God, 547
 Omayyad dynasty, 85
 Omba shells, illus., 353
 Omdurman, battles at, 680; market, 610; sale of spears at, 383; see Der-vishes, Gordon, Kitchener, Mahdi
 Omens, given by medicine-men, 580; in Libyan oases, 376; among Ovimbundu, 583
 Oneiromancy, 580; see Dreams
 Ophiolotry, 567; see Pythons, Serpents, Snakes
 Opium, used in north Africa, 394
 Orange Free State, political, 677; railway communications, 676
 Orang-outang, 91
 Ordeal, administered by medicine-men, 578; blood used in trial by, 354; forbidden by Mohammedanism, 387; types of, classified and mapped, 507
 Oriental Institute of Chicago, 109
 Orisas, Gods of Yoruba, 547
 Ornaments, of feathers and egg shell, 68; personal, 258-270; of Tuareg, 368; see Agate, Silver
 Orthoptera, 70
 Oryx, hide of, used for shields, 362; in rock engravings, 143
 Osiris, 74
 Ostrich, Bushmen mark site of nests of, 336; domesticated, 68; eggshells used for carrying water, 330, for making beads by Bushmen, 330; feathers of, for decorating cattle, 352; feathers of, exported from South Africa, 678; feathers of, from Italian Somaliland, 686; feathers of, as warriors' head-dress, 531; in Kordofan, 383; north of Chad, 362; in rock engravings, 59, 138, 143
 Ottóman Empire, 89
 Oudney, explorations of, 655
 Ouenat, oases in Libya, 374; and rock sculpture, 144
 Outrigger canoes, 604
 Ovambo, cattle customs of, 356
 Ovimbundu, agriculture of, 587-588; belief in souls of dead among, 557; birds revered by, 68; blood brotherhood among, 493; caravans of, 245; courtship and marriage of, 409; face painting of, 260; family life of, 477; games of, 444-445; grounds for divorce among, 420; homosexual customs among, 426; hunters use fire-arms among, 526; hunting customs of, 596-597; kinship terms of, 469-470; laws of inheritance among, 511; laws relating to theft among, 515; methods of fishing among, 602; mortality among, 693; naming customs among, 435; nature lore of, 606; physical measurements of, 176; proverbs from, 310; punishments for murder among, 516; religious beliefs among, 542; sacred kings among, 555; scarification of, 258; sign language of, 318; singing and dancing customs among, 448; slavery among, 538; taboos of, 582; teeth mutilated among, 262; twins among, 434; use manioc, 44; use quills of porcupine, 62; village as a unit of government among, 495; wood-carving of, 614, 616, 619, 621, illus., 619
 Owl, flesh of, forbidden during pregnancy, 430; sacred in Angola, 68
 Oxen, ceremonially used in rain-making, 578; hide of, for constructing Tuareg shelters, 366; hide of, used as a shroud, 356; with long horns illus., 594; paid to redeem slaves, 539; ridden, 56; ridden in Angola, illus., 357; in rock sculptures, 138; used by Tuareg, 368; see Cattle, Fulani, Hottentots, Sacrifice, Transportation
 Paddles, as symbols of authority, 321
 Painting, of bark cloth, 627; of body, 260; of body in honor of God Buku, 545; of Bushmen, 147-149; on rocks, illus., 139
 Paleoliths, of Africa, illus., 105; art of, in Europe, 106; divisions of, in Europe, 103; see Archaeology, Stone implements
 Paleontology, 226; and archaeology, 100; evidence of, is very meager, 159; human, 91-99
 Palestine, and crusades, 77; Egyptian invasion of, 78; fossil mammals of, 20; Jewish homeland, 83

- Palm, 41; cut down by armies, 527; fiber, rope from, 367; fiber, for sandals, 364; kernels, exported from Sierra Leone, 675; leaves, used in house building by Tuareg, 366; in Libyan oases, 375; method of climbing, 41; not cut down, 370; see *Borassus*, Coconuts, Dates, Dum palm, Oil, Raffia
- Palm oil, from Belgian Congo, 684; eaten during initiation, 466; for hair and skin, 260; measurement of quantity of, 613; rubbed on newly born child, 432; used in divorce ceremony, 420
- Palm wine, gourds for holding, 640
- Palmyra palm, 46
- Palmlin, 62, 64; illus., 66
- Panicum*, a genus of millets, 46
- Pantheons, of ancient Egypt, 547; of Dahomey, 546; see Gods, Religion
- Papaya, 41
- Papyrus, 23
- Parakou, in Dahomey, 683
- Parapithecus, 92
- Park (Mungo), explorations of, 658
- Parkland, 32, 44; and horses, 55; in Nigeria, 675; zone of, 326
- Parrots, 68; eggs of, as demand for suicide of king, 551; eggs of, as symbolic message, 321
- Parturition, see Birth, Childbirth, Pregnancy
- Pasteur Institute at Rabat, Morocco, 683
- Pastoral, culture among Kababish, 380-387; elements of, 349-360; pursuits of, in Abyssinia, 687
- Pathological conditions, 255-258
- Patination, 108; of rock sculpture, 143; of stone implements, 124
- Patriarchal system, defined, 476; and government among Tuareg, 370; among Kababish, 384; in Libya, 377; and man's work in agriculture, 587; in Tunisia, 394
- Patrilineal descent, among Kababish, 384
- Patrilocal marriage, 410
- Pawning, of human beings, 537-540, in Liberia, sources of information on, 697; of labor for creditors, 477
- Peaches, 50; grown in Algeria, 395
- Peanuts, see Groundnuts
- Pears, grown in Algeria, 395
- Peas, ceremonies connected with growing of, 402
- Pebbles, and early stone age culture in Uganda, 121; used in counting population, 691; used in making pottery, 632
- Pendembu, 675
- Penis cover, 270
- Pennisetum*, a genus of millets, 46
- Pens, made of reeds, 306, 392
- Pepel, measurements of, 168
- Perforated stone, used for digging stick, 331
- Periodicals, bibliography of, 728-732
- Periplus, a document relating to early navigation in Indian Ocean, 650
- Persia, Arabs in, 85; cheetahs trained in, 61; conquest of Egypt by, 54; contact of, with Egypt, 77; fowls from, 76; glaze of, at Zimbabwe, 89; influences of, 76; origin of chain mail in, 524
- Persian Gulf, and ancient trade, 157
- Personal ornaments, 258-270; of gold, 25
- Petroglyphs, see Rock sculptures
- Phacochoerus*, a warthog, 20
- Phallus, in rock engravings, 143; at Zimbabwe, 88
- Phallus cult, 585; see Fecundity, Fertility rites
- Pharmacopoeia, 585; see Medicine-men
- Pharos Lighthouse, 81
- Phaseolus vulgaris*, beans, 41
- Phelps-Stokes, commissions in Africa, 709
- Philistines, and Phoenicians, 78
- Philosophy, and psychology, 276
- Phoenicians, 78-80; agricultural rites of, survive in Algeria, 395; and Semitic customs, 84; voyages of, 649; see Carthage, Punic
- Phoenix dactylifera*, date palm, 43, 48
- Phonetics, methods of recording, 322
- Phonograph, for making field records, 454; records of Ashanti drum language, 321; see Phonetics
- Phosphates, from Tunisia, 681
- Physical anthropology, 161-254; see Anthropometry, and divisions given in Table of Contents
- Physical features, of Africa, 19-27
- Physical types, of Africa compared, 220-226; sources for illustrations of, 161, classified, 163; in Tibesti, 373; see Anthropometry, List of Illustrations, Physical anthropology
- Physiography, 19-27
- Physiology, and ideas of conception, 471; and psychology, 277; and race, 276; and tests of race, 236; see Anatomy, Blood groups

- Pictographs, of Efik, 308; see Rock sculpture, Writing
- Pictures, Egyptian, 23
- Pietermaritzburg, capital city, 677
- Pigeons, a Ba-ila totem, 485
- Pigment, smeared on body at initiation, 462; see Clay, Colors, Painting
- Pigmentation, of albinos, 255; of Bushmen, 217; of Kabyles, 252; of Mediterranean race, 248; in north Africa, 117
- Pigs, breeds of, in Africa, 595; Keltic breed of, illus., 57; not to be sacrificed, 545
- Pilgrimage, to Mecca, 388
- Pillars of Hercules, 649
- Pillows, carved from wood, 616
- Pinteals, visit to Benin, 658
- Pinto, explorations of, 664
- Pipes, of clay for draining roofs, 366; of reeds played by Bedouins, 376; see Tobacco
- Pisces, see Fishes
- Pits, as traps for animals, 334
- Place names, see bibliographies, Map facing page 16
- Placenta, treatment of, 440; see Birth, Childbirth
- Plantain-eater, in Angola, 68
- Plants, 38-51; burnt to yield salt, 591; source books on, 51; used as charms, 578; used medicinally, 585; see Agriculture, Botany
- Plateaus, 21; in desert, 32; maize grown on, 44; in Sahara, 361; of Tibesti, 373
- Platymeric condition, in Bushmen, 217
- Play, see Dancing, Games, Music
- Pleistocene, animals, in N. Africa, 138; bones of camels, in N. Africa, 54; in Europe, 101-106; glaciations, 30; land bridges, 19; period, and climatic changes, 30; period, duration of, 90; period, in Kenya, 97; see Archaeology, Physiography
- Pliny, 81
- Pliocene, and fossil apes, 92; human fossils of, 95; man not in Egypt, 109; stone implements in England, 126; and Taungs skull, 95
- Plows, in N. Africa, 394; used by Bathonga, 403, in Egypt and by some Negroes, 586
- Pluvial periods, 30; in E. Africa, 119
- Pods, of baobab as food, 48
- Poetry, 316-318
- Pogge, explorations of, 664, 665
- Poison, on arrow points among Bushmen, 333; for arrows, 524; for arrows, antidotes against, 339; for arrows, ceremonially manufactured, 602; for arrows, literature on, 525; on arrows used by Pygmies, 341; of cobra, 67; on darts of crossbows, 602; in drinking water of wild animals hunted by Bushmen, 334; extracted from manioc, 587; for fishing, 602, 603; ordeal among Ovimbundu, 516; plot, and divination basket, 576; on stakes, used in warfare, 522; as test of guilt, 507
- Pokomo, poetry of, 317
- Polar ice cap, 30, 102-104
- Political methods, of European countries, 690; and studies of African problems, 718-719
- Polyandry, 417; in N. E. Africa, 350
- Polygyny, 417-419; among Bushmen, 338; and effect on birth rate, 691; under Mohammedanism, 390; among Pygmies rare, 342; result of European influence on, 702; result of warfare on, 531; a social problem, 419; among Tuareg, 371; see Family, Marriage, Polyandry
- Pombeiros, early Portuguese adventurers, 668
- Population, and climate, 31; density of, 32; distribution of, in E. Africa, 692; of N. Africa and physical features of, 251; of Tripolitania analyzed, 396; see Census, Demography, Health, Welfare of Africans
- Porcupine, 62; in Air, 362; in proverb, 309; quills, 531
- Porridge, from baobab fruit; see Maize
- Porro, a secret society, 500
- Port Elizabeth, caves explored near, 124
- Porters, see Carriers
- Port Harcourt, 676
- Port Herald, 678
- Port Sudan (on Red Sea), railway communication of, 680
- Portugal, Jews expelled from, 84; and labor laws for Africans, 698; policy of, toward Africans, 700; possessions of, in Africa, 684-685
- Portuguese, defeat Turks, 89; early visit to Benin, 630; and historical data, 246, 248; missions, in Abyssinia, 687; riding oxen, illus., 357; rule, in Angola and cultural changes, 719; slave trade of, 40; and slavery in Angola, 538; W. Africa, 21; see Angola
- Portuguese E. Africa, exploration of, 651-653; railways, 676, 685; Zulu invasion of, 530
- Portuguese Guinea, foods for Negroes used in, 586

- Portuguese W. Africa, see Angola, Ovimbundu, Vachowke, Vakwanyama
- Possession, by a spirit, 551; spiritual, of priests, 574; see Bori, Demons
- Potash, near Chad, 26; in making soap, 42
- Potatoes, in poison ordeal among Ovimbundu, 516; sweet, from America, 41
- Potiskum, armor worn at, 383
- Pots, for cooking, 42; used as beehives, 609
- Potter's wheel, in Egypt, 74; not used by Negroes, 632
- Pottery, in Algeria, 395; in ancient Egypt, 112; Badarian, 112; drums of, 390, 450; drums of among Tuareg, 370; early Mediterranean types of, 80; especially made for king of Baganda, 486; formerly made by some Bushmen, 332; labor of males and females on, 622; literature on, 646; made in Agades, 367; made during play, 446; and magical beliefs, 644; methods of making, illus., 633; of Negroes, 632-634; neolithic, of Canary Islands, 118; neolithic, in Uganda, 123; and N. African cultures, 80; in paleolithic times, 121; purchased by Kababish, 383; of stone age in W. Africa, 136; of strand-loopers, 125; of Tuareg, 367; at Zimbabwe, 89
- Poultry, 68; better attention needed for, 596; eaten during initiation, ceremonially, 462; in Libyan oases, 375; in proverbs, 309; sacrificed, 401, 438, to blacksmith's forge, 643, to earth, 402, at funeral, 438, at initiation, 458, before pounding grain, 588; among Tuareg, 368; used in divination, 574; see Chickens, Cock, Ducks, Eggs, Guinea fowl
- Prairie grasses, 46
- Prayer, and agriculture, 398-404; to ancestors after dreaming, 582; in Ashanti, 545; of Bushmen, 334, 338; connected with smelting of iron, 643; for good harvest by Jukun, 552; at initiation, 465; at initiation of priests in Ashanti, 574; of Lango tribe, 491; Mohammedan ablutions before, 632; Mohammedan customs of, 387; offered at tombs in N. Africa, 395; by Pygmies, 345; of Shilluk at grave of ancestors, 564; see Ancestor worship, Religion, Sacrifice
- Praying mantis, 70
- Pregnancy, 429-435, 436-440; and adultery, 513; death during, 544; and divination, 576; and eating earth, 593; among Edo tribe, 440; magically obtained, 560; more care of mothers needed during, 693; among Ovimbundu, 410; and painting of face at, 260; and polyandry, 417; see Abortion, Birth
- Prehistory, 91-160
- Prejudices, of Africans to be overcome by education, 706
- Pretoria, administrative center, 677; and Springbok man, 97
- Priestesses, in Ashanti, 550; of Yoruba, 551
- Priests, 548-556; and agriculture, 398-404; and archaic language, 288; in Ashanti, 545; compared with medicine-men, 572; distinguished from medicine-men in Ashanti, 574; in Egypt, 74; at Ifé, 80; and python worship, 568; see Sacred kings
- Primates, 91
- Primitive races, decline of, 690
- Principe, occupied by Portuguese, 651
- Prisoners, of war made slaves, 534; in warfare, treatment of, 529
- Prisons, under Mohammedan law, 390, 510
- Property, disposal of, 511; see Camels, Cattle, Inheritance, Land, Law
- Propliopithecus, 92
- Prostitution, 424, 425, 426; possible increase of, 702; among Tuareg, 371
- Protectorates, British, in S. Africa, 677; constitutional position of, 678
- Proverbs, 309-311
- Proxy, in litigation and punishment, 507; see Law, Ordeal
- Psidium, genus of guava, 41
- Psittacus erithacus*, tail feathers used, 68
- Psychoanalysis, 284
- Psychology, 276-287; and achievements of Africans, 701, see Education; and anthropology aid administration, 710-719; and causes for decline of population, 692; and changes in kinship system, 483; of collective mentality, 282; of Congo natives, 703; of dreams, 580; and educability of Africans, 700; and explanations of kinship systems, 476; of family life among Ovimbundu, 478; of family relationships, 481; and folklore, 311-316; and food, 595, 694; general conclusions, 287; and growth of societies, literature recommended on, 722; of intelligence and race, 277; of juvenile mind, 286; literature recommended, 723; and mental tests, 278-280; methods of study of, 276; methods of summarized, 276, 287; and physiology, 277; of songs and

- dancing, 456; and stories, 280; and study of cultural types, 328; of unconscious mind, 283-285
- Ptolemy, 81; and data for ancient tribes, 144; early map of, 651
- Puberty, and age-grades, 498-505; and educational possibilities, 702; rites, 457, and fecundity of cattle, 358; see Circumcision, Initiation
- Puff-adder, poison of, used for arrow points, 333
- Punch and Judy shows, 390
- Punic, language of Carthaginians, 79; symbols, 305; wars, 80
- Punishment, 510; and ancestral displeasure, 566; among Bushmen, 337, 338; European type not understood by Negroes, 710; inflicted by secret societies, 498-502; under Mohammedan law, 388; for murder, 515-519; of warriors, 530; see Adultery, Law, Theft
- Puppets, 319
- Purgatives, used by Banyankole, 349
- Purification, at initiation, 459; of shrines of ancestors, 549; of warriors, 533
- Pygmies, 341-346; in Abyssinia, 242; Bambuti, 202; Bambuti, illus., 207; blood group tests of, 239, 240; compared with Bushmen, 210; dispersal of, 206; early observation of by Du Chailu, 662; general description of, 208; general physical traits of, 202-204; as hunters, ingenuity of, 61; implements of stone, called "pygmy," 150; language of, 206, 208, 289; map of distribution of, 206; marry with Negroes, 341; measurements of, 212; migration of, 240; numbers of, in Ituri, 206; physical anthropology of, 202-210; possible origin of, 228; stone implements of, 129
- Pyrenees, and cave paintings, 103
- Python, as founder of clan, 488; illus., 569; sacred, 64; sacred among Banyankole, 350; worship of, 567, 568
- Python sebae*, 64
- Quaternary age, 31
- Querns, 25; used by Tuareg, 366
- Quillman, physical measurements of tribes, 178
- Quills, 531; attached to musical instrument, 453; of porcupine, uses of, 62; see Porcupine
- Ra, sun God of Egypt, 24, 74, 556
- Rababa*, a stringed instrument, 453
- Rabat, Pasteur Institute at, 683
- Rabbit, rock rabbit or hyrax, 60
- Rabeh, 55; conquests of, 245; predatory journeys of, 657
- Race, ancient, of N. Africa, measurements and migrations of, 251, 252; biological differences of, 231-232; difficulty of defining, 161, 229-231; and intelligence, 276; physiological tests of, 236; see Anthropometry, Physical anthropology
- Race problems, literature on, 706
- Racial differences, anatomical, 235
- Racial likeness, formula for estimating, 224
- Radium, from southern Congo, 684
- Raffia, for clothing, 270; weaving of, 636
- Raffia fiber, for mats, baskets, skirts, 42
- Raffia palm, illus., 47
- Railway communications, in Tanganyika Territory, 679
- Railways, in Abyssinia, 687; of Algeria and Morocco, 681; of French Africa, 683; of Nigeria, 676; not in Liberia, 674; planned for Sahara, 681; of Sierra Leone, 675; of S. Africa, 678; and tsetse fly, 71
- Rain, controlled by king, 552; sent by mantis, 338; serpent a symbol of, 404
- Rainbows, and snake beliefs, 404
- Rainfall, 34-38; in ancient Egypt, 109; and the calendar, 592; in Kalahari Desert, 329; in Nigeria, 676; in Pygmy territory, 341; in Sahara, 361-362; see Climate, Pluvial periods
- Rain-making, and agriculture, 398-404; by Banyankole, 350; Bushmen rites for, 339; a clan privilege among Lango, 491; importance of, to Nilotic tribes, 351, 553; various methods of, described, 576-578
- Ramadan, Mohammedan festival, 376; 387, 394
- Rameses III, conquests of, 78
- Rape, punishment of, 529; see Abduction
- Raphia vinifera*, a palm, 41
- Ras Tafari, former ruler of Abyssinia, 687
- Rats, caught in cane traps among Ovimbundu, 608; eaten by Yoruba, 606; kinds of, 62; roasted by Vasele, 664
- Rattan, used for repairing gourds, 620; see Bows
- Rattle, general, 452; illus., 449; shaken by mother of twins, 433
- Razors, 392; made by blacksmith, 629
- Rebirth ceremony, 458
- Rebmann, explorations of, 669

- Recent period (geological term), duration of, 90
- Red Sea, 19; and ancient voyages on, 157; geographical position of, 680; Italian influence on coast of, 686; Italian possessions near, 687; strategic position of, 673
- Reed pipes, played by Bushmen, 336; signal in secret society, 499
- Reeds, used for arrows, 333; used for canoes by Buduma, 604; used for pens, 392
- Reincarnation, 440; in animals, 60; and childbirth, 437-438; and divination, 560; of God in king, 547-548, see Sacred kings; of king among Bushongo, 555; and kinship terms, 471
- Relationship, tables of, 472-473; see Family, Kinship terms
- Religion, 541-585; in Abyssinia, 688; and agriculture, 398-404; of Bushmen, 336-339; conflicting ideas of African and European teaching on, 707; effects of, on handicrafts, 642-645; in Egypt, 23; of Egypt and Christianity, 81; general concepts of, 541-542; and handicrafts, 614; influence of, on conduct, 565-567; of Kababish, 383-387; and law, 508; in Libyan oases, 376; literature on, 584; of Negroes, points summarized, 568-570; in north Africa, 395; points summarized, and bibliography, 583-584; of Pygmies, 345; and python worship, 64; a stimulus to art, 553; and stone monuments, 156; in Tibesti, 374; of Tuareg, 369-370; at Zimbabwe, 88; see Egypt, Headings in Table of Contents, Magic, Medicine-men, Mohammedanism, Morality, Phoenicians, Soul
- Reptilia, 64; see Crocodiles, Serpents, Snakes, Tortoises, Turtles
- Research, botanical, 38; future of, in Africa, 28, 720-727
- Respiratory diseases, and decline of population, 693
- Rhapta, ancient sea port, 158
- Rheumatism, cured by shocks from catfish, 576; python bones a cure for, 64
- Rhinoceros, 53, 59; and rock engravings, 142
- Rhodes (Cecil), engineering accomplishments of, 676
- Rhodesia, ancient terracing in, 157; Boer conquest of, 71; fossil man of, 92-94; political, 677; railway communication, 676; Southern, and Zimbabwe, 87; and stone implements, 126; topographical study of, 29; and tribes described by Holub, 668
- Rice, 40; ceremonially used, 530; ceremony of planting in Sierra Leone, 401; cultivation along Niger, 682; distribution of, in Africa, 42; exported from Ashanti, 675; exported from Zanzibar protectorate, 679; in Libyan oases, 375; from Mesopotamia, 76
- Riddles, 309-311
- Riff, physical measurements on, 198; pigmentation of, 252
- Rift Valley, 21; and human migration, 157
- Riga, worn in W. Africa, 392
- Rio de Oro, explored by Oscar Lenz, 656; Spanish possession, 688
- Riss, glaciation in Europe, 104
- Ritual, medicine-men in charge of, 578; and occupation, 642-645; see Kings, Magic, Religion, Sacrifice
- River-drift period, and implements of Nile Valley, 106; near Zambesi, 124; see Acheulean, Axes of stone, Chellean, Stone implements
- Rivers, dried up, 33; and human endeavor, 22-24
- Roads, 71; motorable in Algeria and Morocco, 681; motorable in Nigeria, 676; motorable in Sierra Leone, 675; native labor employed on, 696; well constructed in central Angola, 684
- Roan, large antelope, 59
- Robenhausian culture, 106
- Rockefeller Institute at Lagos, 693
- Rock engravings, 59; age of, in Libya, 143; attributed to demons, 376; in Libya, chronology of, 144; school of, in north Africa, 141; type of, 145; see Art, Bushmen
- Rock paintings, illus., 139; of N. Africa, 137-143; and present ritual, 145; of S. Africa, 146-152; of S. E. Africa, 145-146; see Art, Bushmen, Colors
- Rock rabbit, 60
- Rocks, inscribed by Portuguese, 652; see Physiography
- Rock shelters, 142; in Tibesti, 373; see Caves
- Rodents, 62
- Rohlf, explorations of, 656
- Roman Empire, extent of, 80
- Romans, in Africa, 23; and early exploration, 650; exploration of, 82; historian Livy, 54; traits diffused by, 82
- Rome, destroyed, 82; founded, 80
- Ropes, of baobab fiber, 48; of fiber, 42; made by Kababish, 382; made from sisal fiber, 679; see Fiber, Plaiting, String

- Rostrocarinate stone implements, 126
- Rotation of crops, future improvements needed in, 694; in Nigeria, 401; not observed among Bathonga, 403
- Rovuma River, and explorations of Livingstone, 667
- Royal Geographical Society, 669
- Ruanda, importance of cattle in, 351
- Rubber, and American enterprise in Liberia, 674; from Belgian Congo, 684; burnt and rubbed in cuts, 258; as currency, 612; from Mozambique, 685; from Tanganyika Territory, 679
- Rum, ceremonially used at childbirth, 439; as currency, 612
- Ruwenzori, 21; and glaciers, 102
- Sabaeen, ancient language of S. Arabia, 301; likeness to T'ifnagh script, 306
- Sacred fire, 359; in king's kraal, 349; replenished by attendant in Angola, 574; see Cattle culture, Fire
- Sacred kings, 548-556
- Sacred texts, of Egypt, 23
- Sacrifice, at age-grade ceremonies, 503; and ancestor worship, 560, 561, 565; to blacksmiths, 642, 643; of camel, 374; of cattle, 354, 356; during pottery making, 645; and fertility of soil, 398-404; of first fruits by Bushmen, 334; to gods, 544; of human beings, 79, 548-552, see Sacred kings; literature on, 585; nature of, 542; of oxen in rain-making by Bathonga, 578; by Pygmies, 345; in rain-making by Lango tribe, 491; in relation to law, 519; Semitic form of, 387; against sterility, 438; see Cattle, Magic, Religion
- Saddles, for camels, 83; of Tuareg, 367
- Sahara, camel cultures in, 361, 378; crossed by Mansur, 55; exploration of, 654-658; French administration in, 681; geological and climatic changes in, 31; gum trees in, 48; jerboa in, 62; maps of, 651; natural history of, 52; Phoenician influence in, 79; rainfall in, 38; rock engravings of, 54, 137; rock sculpture of, 140; Roman exploration in, 82; stone implements in, 115; trade across, 25; zone of, 326; see Arabs, Bedouins, Camel culture, Mohammedanism, Oases, Tibesti, Tuareg
- St. Mark's, Venice, 83
- Salisbury, Southern Rhodesia, railway center, 685
- Salt, annual caravan for, in Sahara, 369; caravan of, from Bilma, 26; for cattle, 352; as currency, 612; eaten with manioc, 588; methods of preparation and distribution, 591; mined in Sahara, 591; for preserving locusts, 608; for preserving meat by Tuareg, 367; in Sahara, 26; from sea water, 591
- Salt (Henry), and exploration of Nile, 668
- Saltpeter, added to chewing tobacco, 370
- Sanctions of law, 506; see Law, Religion
- Sanctuary, 509; among Lambas, 496; see Blood-feuds
- Sandals, in Tibesti, 373; used by Bushmen, 331; worn by Tuareg, 364
- Sandawe, clicks in language, 291
- San Francisco, 20
- Sanga River, Pygmies near, 242, measurements of, 212
- Sangoan culture, stone implements of, in E. Africa, 119
- San Salvador, founded by Portuguese, 652
- Sanye, hunting tribe in E. Africa, 346
- São Thomé, island, 651
- Sap, of palm for making wine, 527; of palms, 41
- Sapeto, explorations of, 670
- Sara, teeth mutilated among, illus., 262
- Sasswood, used in poison ordeal, 507
- Savannah lands, 32; shea-butter tree grown in, 46; see Zones of vegetation
- Saw, used in dividing gourds, 620
- Sawmills site, S. Africa, stone implements from, 126
- Scalps, taken in warfare, 528
- Scapegoat, a Semitic rite, 84
- Scarification, 258-260, illus., 259; at initiation, 465; among Kababish, 385; magical, for warriors, 532; of members of secret society, 499; not much used in Tibesti, 373
- Scenery, illus., 33, 35, 36, 37, 39, 40
- Schweinfurth, explorations of, 670
- Scilly Islands, and tin supply, 79
- Scissors, made by blacksmith, 629
- Scrapers, from Nile Valley, 106; of stone from Morocco, 112; types of, in stone, 129
- Scrub, 34
- Scylax, historian, 81
- Seasons, see Climate, Rainfall
- Sebilian culture, 114; and implements, 111; term defined, 109
- Sechele, a Zulu chief, 71
- Secret societies, 61, 498-502; and archaic languages, 289; literature relating to, 502; and painting the body, 260; and scars on body, 260; of witches, 572; see Initiation

- Secretary bird, 68
 Sects, of early Christians, 81; of Mohammedans, 388
 Seduction, payment for, 412
 Seeds, of kola tree, 48; of sesamum, 46; see Rattles
 Segu, on Niger, visited by Mungo Park, 658
 Sekondi, 675
 Semantic tones, 301; see Tones
 Semi-desert, 34; in British Somaliland, 680, illus., 39; and horses, 55; in Nigeria, 675
 Semites, beliefs of, in Libyan oases, 376; customs of, 370; customs of, and kinship systems, 474; customs of, among Tuareg, 367, 372; divisions of, 163; elements of culture of, 379-397; languages of, 79, 299-302; languages of, in Abyssinia, 687; languages of, and Bantu, 290; matrix of, 78, 83; physical measurements on, 198; see Arabs, Jews, Kababish, Phoenicians
 Semliki River, explored by Stanley, 663
 Senegal, Jewish migration to, 84; railways of, political, commercial, 683; River, and Carthaginians, 650
 Senhaja, physical measurements on, 198; pigmentation of, 252
 Senussi sect, Arabs of, 369; bombed by Italians, 691; in Libya, 376; and murder of De Foucauld, 657; in Siwa, 393
 Sequira, early Portuguese explorer, 658
 Serer tribe, descent reckoned through females, 480
 Serpentine stone, for tobacco pipes by Bushmen, 332
 Serpents, 67; ancestors reincarnated in, 561; deity of, in Dahomey, 546; inhabited by demons, 386; molded on corn bins of Ba-ila, 403; worship of, 567; see Cobra, Python
 Sesame, 46
Sesamum indicum, seeds used, 46
 Sex, determined by magic during gestation, 431; in drums, 321; and occupation, 621-622, 639, see Labor; organs, of Bushmen and Hottentots deformed, 216; ratios, 691, in Tanganyika Territory, 692; and secret societies, 498; and types of labor, 360; see Family, Father-right, Kinship, Mother-right
 Sexual intercourse, 424-428; with captured women, 529; ceremonial, 439; forbidden before fishing, 603; of warriors forbidden, 532
 Sexual life, 409-428; see Betrothal, Conception, Divorce, Marriage
 Sexual morality, of Nilotic Negroes, 415; see Betrothal, Chastity, Courtship
 Shadow and soul, 563
 Shaduf, 77
 Shafeits, a Mohammedan sect, 388
 Shango, Thunder God, and celts, 134
 Shaving of head, general references, 270; at initiation, 465; among Kababish, 385; in Tibesti, 373
 Shea butter, produced in Nigeria, 675; tree, 46
 Sheep, in Abyssinia, 687; from Asia, 76; in Aurès Mountains, 395; Barbary, in Air, 362; breeds of, 595; cooked whole, 395; domesticated by Egyptians, 58; kept by Bedouins, 394; kept by Kababish, 381; in Libyan oases, 375; and pigs, 58; roasted whole, 394; sacrificed by Kababish, 385; sacrificed if pottery is broken intentionally, 644; sacrificed by Shilluk at grave of ancestor, 564; in Siwa, 393; skin of, for clothing, 364; skin of, worn in Tibesti, 373; Syrian, 58; torn and devoured by Mohammedan fanatics, 393; varieties of, illus., 57
 Sheikhs, among Kababish, 381, 383
 Shell, as ornament, 274; see Beads, Cowrie, Ostrich
 Sherbro Island, stone statuettes from, 136
 Shields, 522; consecration of, for war, 531; different types of, for Zulu warriors, 530; of Tuareg, 362, 364
 Shila, dialect is Hamitic, 301
 Shilluks, 23; beliefs in ancestral spirits among, 564; have bone-pointed spear, 135; and importance of cattle, 351; kill their king, 75; language of, Hamitic elements in, 300; physical measurements of, 181; rain-making and religion of, 553; religion of, 547
 Shiré River, drains Lake Nyasa, 678; explored by Livingstone, 667
 Shrews, 62
 Shrines, in Ashanti, 548; of Banyankole king, 350; cannibalism at, 533; drums as, 450; erected during smelting of iron, 643; of Nilotic Negroes, 553, 563; parts of human bodies in, among Baluba, 555; and skulls of ancestors of, Angas, 565; see Altar
 Shrubs, see Coffee, Cotton, Guava
 Shuwa Arabs, illus., 269; nose ornament of, 262
 Shuwalbe Fulani, cattle customs among, 358
 Sicily, ancient source for tin, 19
 Sickles, of flint, 73

- Sickness, caused by offended ancestors, 566; and change of name, 435; due to mosquitoes, 70; magical diagnosis and treatment, 576; see Magic, Medicine-men, Welfare of Africans
- Sidon, Phoenician city, 78
- Sierra Leone, agricultural rites in, 401; forest in, 32; gambling game in, 445; law relating to murder in, 518; and Phoenician trade, 79; political and commercial, 674-675; rice grown in, 42; secret society in, 260, 499; stone figurines from, 136
- Signaling, with drums, 448; with smoke, 522, 650; see Drums
- Sign language, 318; used in counting, 612
- Silent trade, 650
- Silk, of Phoenicians, 79
- Silver, of Byzantines, 83; charms of, in Algeria, 395; details of craft on, 632; from Nigeria, 675; ornaments, in Tibesti, 373; ornaments, of Tuareg women, 364, 367; stool of, in Ashanti, 549; wire of, 77
- Silversmiths, 392
- Sin, and ancestral displeasure, 566; see Law, Morality, Religion
- Sinai Peninsula, 19; entry point into Africa, 58
- Sinew, used for bows among Bushmen, 333
- Singing, 446-448; while pounding grain, 588; see Dancing, Music, Poetry
- Sisal, from Angola, 685; grown in Ashanti, 675; grown in Tanganyika Territory, 679; from Kenya colony, 679; from Mozambique, 685
- Sister, Negro use of term, 482; see Cousins, Kinship terms
- Siwa oasis, Berber and Arab customs of, 393; dates exported from, 50; language of, 300; physique of inhabitants of, 252; situated in Libya, 374; stone implements of, 112; visited by Browne, 669
- Size of Africa, 20
- Skildergat Cave, 96
- Skins, for carrying water among Kababish, 382; for making cloaks, 635; see Animals, Clothing, Hides, Leather
- Skulls, of ancestors preserved among Angas, 565; of Bushmen and Hot-tentots, 217; of Bushmen and Pygmies compared, 214; of enemy as drinking vessels, 528, 532; of enemy preserved among Ba-ila, 532; of Hadendoa, 250; of Negroes, measurements on, 180, 184, 185
- Sky God, and agriculture, 398-404; in Ashanti, 545; of Jukun, 546
- Slave trade, and efforts of Robert Moffat, 666; and ivory, 52; plants introduced by, 40; and prostitution, 425
- Slaves, 533-540; and American customs, 445; in Ashanti, 537; and beginnings of European trade in W. Africa, 658; caravans and race mixture, 245; caravans of, across Sahara, 537; causes for, 538-539; exported from Bornu, 537; exported to Brazil, 538; have vegetable diet, 349; among Kababish, 380; master legally responsible for, 515; among Mohammedans, 388; murder of, 518; in Nigeria, 537; among Ovimbundu, 538; position of, in spirit world, 560; and race mixture, 234; raiding for, in Abyssinia, 687; sacrifice of, 548-552, see Sacred kings; sent from Sudan into Libya, 377; status of, among Kababish, 385; status of, as a punishment, 510; strangled at death of king, 549; substituted for masters in ordeal, 507; treatment of, by Mohammedans, 537; among Tuareg, 372; among the Wahehe, 537
- Sleep, soul sleeps in body temporarily, 558; see Dreams
- Sleeping sickness, 70-71; in Cameroons, 694; and decline of population, 693; in Rhodesia, 677
- Slippers, of king sacred, 507; see Sandals
- Smelting, of iron, 629, 643; see Bronze, Gold, Iron, Silver
- Smith (Donaldson), explorations of, 670
- Smithfield culture, and its affinities, 151; and stone-age site of, S. Africa, 128
- Smoke, for coloring pottery, 634; signals, at coast for traders, 650, in warfare, 522
- Smoking, 41; of tobacco, many methods used in, 332; see Hemp, Narcotics, Opium, Pipes, Tobacco
- Smuts (General), political work of, 676
- Smutsia temminckii*, 64; see Pangolin
- Snails, eaten by Yoruba, 606; method of collecting and preservation of, on Gold Coast, 609; symbolism of, in dreams, 582
- Snake, as bad omen, 583; bite, charm against, 260, 274, treated by Bushmen, 339; charmers, in bazaars, 390; and divination, 576; double-headed, 67; as food for Bushmen, 329; parts of, used in medicine among Bushmen, 339; see Cobra, Puff-adder, Python, Serpent

- Snares, made by Bushmen, 334
 Snow, melting of, 23; on mountains, 21
 Snuff, 41; boxes, 590; carried in hair, 270; how made, 590
 Soap, from exported oil, 42; from sap of banana trunk, 42; from shea butter, 48
 Soapstone, objects of, at Zimbabwe, 88; Tuareg armlets of, 364
 Sobat River, explored by Marchand, 665
 Social control, 498-520, for details, see Table of Contents; and occupation, 351; and organization, 469-497, affected by slavery, 534-535, among Kababish, 383-387, in Libyan oases, 377, of Tuareg, 369-372; and problems of Africa, difficulties of solution of, 694, literature relating to, 717-719; and progress, reading recommended, 722; and status, 538, among Kababish, 383, in Libya, 377
 Sociology, of Africa, 29; aids in study of African problems, 720-727; American contributions to, 722-723; literature recommended on, 722; and mentality, 278; and study of nutrition, 398
 Sodium arsenite, to kill locusts, 70
 Sodomy, 426, 427
 Soil erosion, 28
 Sokoto, horses bred at, 56; nature of market trade in, 610; and trade, 26; visited by Clapperton, 655
 Soleim, an Arab invasion, 85
 Sollner, companion of Holub, 668
 Solomon (King), and Egypt, 55; and Zimbabwe, 87
 Solutrean period, 103; in Egypt, 111; and technique in S. Africa, 130; see Stone implements
 Somali, illus., 197; language, Hamitic, 300; physical measurements on, 199
 Somaliland, British, 680; cheetahs in, 61; hunters in, 77, 346; (Italian), products of, 686; sources of information on, 680; stone implements of, 119; (French), strategic position of, 681
 Somme River, terraces of, 103
 Songhai Empire, 55, 87
 Songs, 316-318; during initiation, 465; of harvest, thanksgiving, 401; historical value of, 246; of Kababish, 383; of love and war in Libya, 377; magical, of fishermen among Ovimbundu, 603; sung while marching, 444; see Hymns, Poetry
 Soninke dynasty, 85
 Soon-Kundava, Zulu leader, 530
 Sorcery, literature on, 585; see Magic, Medicine-men, Witchcraft, Wizards
 Sorghum, 44; see Durra, Millets
 Sororate, 418
 Soul, 556-564; of animals feared by hunters, 598; of animals killed by hunter, 489; beliefs of, among Nilotic Negroes, 563-564; beliefs of, among Pygmies, 345; contacts with, made by medicine-men, 580; enters fetus, 558; ideas of, in Ashanti, 562; of man in leopard, 562; methods of destroying, 560; reincarnated, 60; trapped in animal, 562; see Animism, Ghosts, Kings, Reincarnation, Spirits, Transformation, Transmigration
 Soup, from baobab fruit, 48; from caterpillars, 608
 Sources of rivers, 22, 23; see Congo, Exploration, Niger, Nile, Zambezi
 South Africa, ancient stone buildings in, 157, see Zimbabwe; archaeology in, 123-132; archaeology, climate, and geology in, 30; commercial, products and exports, 678; condition of laborers in, 698; exports maize, 44; history of, 666; literature dealing with education in, 709; Museum of, stone implements in, 129; political conditions in, 696; railway communications, 676; topography and human life in, 29; see Union of South Africa
 South America, foods introduced from, by Portuguese, 652; monkeys of, compared with those of Africa, 91
 Spain, and Capsian culture, 129; cave art of, and that in N. Africa, 141; entered by Arabs, 85; Jews expelled from, 84; Mediterranean race in, 249; possessions of, in Africa, 688
 Spanish Guinea, 688
 Spearheads, as currency, 612
 Spears, 526; of Bathonga warriors, 531; with bone points, 135; ceremonial, for rain-making in Lango tribe, 491; for killing cattle among Bavenda, 595; sacred oath taken on, 519; shot by guns at elephants in Cameroons, 526; sometimes used by Bushmen, 332; of Tuareg, 364; used as payment, 427; see Assagais
 Speke, travels of, 669
 Spell, sung during fishing among Ovimbundu, 603; see Prayer
 Spelling, of tribal names, 28
 Spiders, poison of, used for arrows, 333
 Spindle whorls, at Zimbabwe, 89
 Spirits, exorcised, 576; good and bad, among Ovimbundu, 557; possession

- of, by young hunter, 598; of river, lake, and sea, 545; see Animism, Soul
- Spitting, as a blessing, 439, 491
- Spoons, of ivory, 634; among Tuareg, 368; of wood, 616
- Springbok man, 97
- Squirrels, 62; in Air, 362
- Staffs, of ancestors sacred, 356; of bronze, 630; carved in wood, illus., 619; of dead kings sacred, 495
- Stage plays, 319, 320
- Stamping of cloth with wooden blocks, 644
- Stanford, publisher of maps, 29
- Stanley, and Congo Free State, 684; explorations of, 663; meeting with Livingstone, 667
- Stanley Pool, 665
- Starch, vegetables containing, 44
- Stars, Bushmen beliefs concerning, 338; observed and named by Ovimbundu, 606; symbolism of, among Lambas, 544
- Stationery Office of London, a source for publications, 29
- Statistics, and anthropometry, 162; showing mixtures of types, 251, 252, 253
- Statuettes, of stone and clay in W. Africa, 136
- Statures, of Africans, summary of, 220; of Nilotes, 23; see Tables 1-8
- Steatopygy, in Bushmen and Hottentots, 215; in cave paintings of Europe, 129; in rock sculpture, 143
- Stefani, explorations of, 670
- Stegomyia fasciata*, 70
- Steppes, 32; of Kordofan, 34; see Vegetation zones
- Sterculiaceae, chocolate family of trees, 48; see Kola
- Sterility, of male as ground for divorce, 421; among Valenge, 438; see Barrenness, Conception, Divorce, Pregnancy
- Sterkfontein, human fossil found at, 95
- Still Bay, stone-age site in S. Africa, 128
- Stilts, in Angola at initiation, 460
- Stimulants, 48; see Alcohol, Beer, Hemp, Kola, Narcotics, Snuff, Tobacco, Wine
- Stocks, for confining thieves, 515
- Stone, as anvils, 629; beads of, 73, 634; dwelling places of demons among Kababish, 386; for grinding, 530; implements of, 99-136; legendary hammer of, 643; perforated, 124, used for digging stick, 331; pounder for making pottery, 634; removed from patient, 339; for rubbing beads, 634; used at Zimbabwe, 88
- Stone age, for Africa summarized in one book, 160; cultures, correlated, 130, migration of, in Africa, 131, of N. E. and S. Africa compared, 132; man, and beds of flint, 24; terminology of, 30; see Archaeology, Stone implements, Stone monuments
- Stone armlets, 274
- Stone borers, used by Bushmen, 332
- Stone dams, for fishing among Bushmen, 333
- Stone implements, 99-136; of Africa illus., 105, 107, 113; of Congo region in W. Africa, 132-136; and iron in W. Africa, 135; of Nile Valley, 106-111; of South Africa, 123-132; of Uganda, 121; see Table of Contents
- Stone monuments, 80; in Abyssinia, 155; in Anglo-Egyptian Sudan, 155; and buildings, 152-158; see Megaliths, Menhirs, Tombs
- Stone pounders, for grain, 135
- Stone statuettes, 136
- Stone tools, from Natal, 123; see Stone implements, 99-136
- Stone walls, defend villages among Angas, 521
- Stools, of Ashanti and Bida, 620; covered with beadwork, illus., 641; sacred in Ashanti, 548; sacred among Shilluk, 554; tops covered with hide, 635
- Stories, ethnological, 276, and studies of mentality, 280; see Folklore, Mythology
- Story tellers, in bazaars, 390
- Strabo, 81; map prepared by, 650
- Strait of Gibraltar, and early exploration, 649; see Gibraltar
- Strandloopers, 96, 124
- String, from baobab fiber, 48; figures of, 446
- Strophanthus, used in arrow poison, 524, 602
- Stuhlmann, explorations of, 671
- Suakin, starting point of exploration, 670
- Sudan (western), communication with N. Africa, 682; compendium of information on, 680; durra cultivated in, 46; (western), historical, 86, 87; languages of, classified, 294; periodical literature for, 52; (eastern), slave caravans of, 536; (eastern), vegetable products of, 680; (eastern), warfare in, 671; see Anglo-Egyptian Sudan, Darfur, Kordofan, Sennar

- Suez Canal, 673
- Sugar, from Mozambique, 685; from palm sap, 46
- Sugar cane, 40; where grown, 42
- Suicide, 584; causes of, 517; at death of king, 551; nature of ghosts after, 544; of rain-maker among Nilotic Negroes, 553
- Suk, hair dressing of men among, 270; importance of cattle and agriculture among, 351
- Suku, God of Ovimbundu, 542
- Summaries, of methods in studying African problems, 721-727; see concluding paragraphs of chapters and sections
- Sun, eclipse of, and history, 246; eclipse of, observed by Ovimbundu, 606; God of, in Egypt, 23, 74, 556; magical rite to delay setting, 606; ruled by a deity in Dahomey, 546; and time reckoning among Ovimbundu, 592; as wife of the moon, 338; worship of, and power of king, 552; worship of, and stone monuments, 156
- Surface contours, 21
- Surf boats, 20
- Surgery, 266; and castration, 536; primitive in Algeria, 395
- Swahili, 301; and Arabic writing, 306; a trade language, 288
- Swakopmund, railway communication, 676
- Swaziland, economic geography of, 677; military organization of, 530; political, 677
- Sweat bath, 576
- Sweet potatoes, from America, 41; method of cooking, among Ovimbundu, 588; where grown, 44
- Swords, 526; of Tuareg, 83, 364
- Symbolic messages, varieties of, 320
- Symbolism, of blood, milk, and grass, 352; and interpretation of dreams, 582; in wood-carving, 616
- Syphilis, 71; decline of population as result of, 693
- Syria, cultural relations of, with Egypt, 112; fossils in, 20; invaded by Egyptians, 78
- Taboos, 484-493; in agricultural operations, 398-404; and childbirth, 429-441; connected with handicrafts, 644; against eating totem, 485; during hunting, 596-600; during initiation, 467; during manufacture of arrow poison, 602; imposed by medicine-men, 580; and mother-in-law in Ashanti, 482; observed by Bushmen hunters, 334; observed by fishermen, 602-603; of Ovimbundu, 582; Semitic, 387; against sexual intercourse, 400; and totem animals among Pygmies, 342; and worship of Buku, 545; see Initiation, Magic, Medicine-men, Religion, Totems
- Takula, wood, coloring from, 262
- Tales, see Folklore
- Tamahu (Libyans), and rock engravings, 143
- Tamashek, Hamitic language, 299
- Tangale, head-hunting among, 532
- Tanganyika Lake, 22; exploration of, by Burton, 669; and explorations of Livingstone, 667; mapped by Cameron, 668
- Tanganyika Territory, 145; age-grades in, 504; archaeology of, 118-123; big game in, 59; census reports for, 692; commercial information on, 679; educational and political problems of; military system of, 529; music of, 456; problems of administration and literature relating to, 718; terracing of hillsides in, 586; work in bark in, 626
- Tangier, and international zone, 688
- Tanning, 635; mangrove bark used in, 685; method of, among Kababish, 382; in Tunisia, 394; see Hides, Leather
- Tano, earth God in Ashanti, 400
- Tapioca, development of industry in W. Africa, 682; exported from Ashanti, 675
- Tardenoisian period, 103; and culture in S. Africa, 127
- Tarik, Arab ruler, 85
- Tassili des Ajers, rock art near, 141
- Tattooing, of Libyans, 78; by puncture, in N. Africa, 260
- Taungs, and culture periods, 125; skull of, 94
- Taxes, labor instead of, 696; paid in cattle, 350
- Tea, in Libyan oases, 375; purchased by Kababish, 383; sanctioned by Senussi, 370; in Tanganyika Territory, 679
- Tebessa, old Roman city, 80
- Tebu, life and occupation of, 372-375; see Tibbu
- Technology, literature on, 646; see Baskets, Beads, Brass, Handicrafts, Iron, Mats, Pottery, Stone, Wood-carving
- Teda, life of, 372; see Tibesti Plateau, 372

- Teeth, of camels, guide to age, 382; congenital defects of, 256; dreaming of loss of, 580; eruption of, among Bushmen, 217; extracted, 262; extracted at initiation, 467; of human beings cleaned with wood, 320; of hunting dog rubbed with medicine, 600; mutilated, 262, illus., 261; mutilated in Tibesti, 373; mutilation of, and admission to age-grade, 505; omens concerning, 436, 437
- Teghaza, 26; salt mines of, 25
- Teknonymy, 429; see Naming
- Telegraph system, 321; see Drums, Signaling
- Tel-el-Amarna, paleoliths of, 106
- Teliki, explorer, 670; see Höhnel in bibliog.
- Tennes, a secret society, 500
- Temperatures, 21, 32
- Temple, of Baganda, 554; of God of Thunder of Ibadan, 616; at Mecca, 387; for python worship at Victoria Nyanza, 350; see Priests, Sacred kings, Shrines
- Teneriffe, 117
- Tents, of Bedouin Arabs, illus., 380; of Kababish, 382
- Terminology, 474; in archaeology, 104; in physical anthropology, 161; for stone implements of S. Africa, 128; see Kinship terms
- Termites, earth of hills magically used, 606; hills, 49, destroyed by aardvark, 62, earth of hills eaten, 593; human beings turn into, 502; selecting wood to resist, 606; used as food by Bushmen, 329
- Terraces, for agriculture, 157; for agriculture among Angas, 522; and glaciation, 102; of hillsides, 79; by Kabyles, 50; of Somme, 103; and stone implements in Egypt, 109, 111
- Terra cotta, heads of, 80, illus., 573; heads and statues of, 136
- Testicles, of bull crushed, 349; of enemy eaten, 532; as trophies, 529; see Castration
- Tests of intelligence, 279
- Tête, and Portuguese exploration, 653
- Teutonic tribes, and Roman Africa, 82
- Thatching, palm leaves used in, 46; see Houses
- Theatre, 319, 320; see Drama
- Thebes, paleoliths of, 106; stone implements at, 110
- Theft, 515; children punished for, 443; punishment of, by Didinga, 519
- Therapeutic treatment, by scarification, 260; see Cupping, Medicine-men
- Thieving, as ground for divorce, 420
- Thomson, explorations of, 670
- Thornbush, 34
- Threshing, ceremonies connected with, 403
- Throwing-knife, 526; in Tibesti, 373
- Thunderbolts, and serpent deity in Dahomey, 546; and Shango, 134
- Thunderstorm, in Sahara, 361
- Tibbu, physical measurements of, 253; throwing-knife of, 525
- Tibesti, 34; early exploration of, 655-656; French and Italian interests in, 686; physical types in, 373; physique of inhabitants of, 253; Plateau, description of customs and occupations on, 372; throwing-knife of, 525
- Tie-dyeing, 636
- T'ifinagh, alphabet of Tuareg, 79; and Greek characters, 82; script in rock engravings, 140; used by Tuareg women, 371; writing of Tuareg, 302, 306
- Tiger Kloof, stone implements of, 126
- Tigré, a Semitic language, 301
- Timber, 44; from Belgian Congo, 684; for canoes, 604; exported from Ashanti, 675; resinous, from Sudan, 680; used in wood-carving, 614; uses of, by Ovimbundu, 44; see Forests, Wood-carving
- Timbuktu, 87; captured by French, 658; center for leather work, 635; early explorers of, 654; fossil man near, 116; industries of, 368; lines of communication, 683; reached by Oscar Lenz, 656
- Timgad, old Roman city, 80
- Timne, law relating to murder among, 518
- Tin, 25, 73; of Nigeria, and stone implements, 135, 675; at Zimbabwe, 89
- Tinné (Miss), explorations of, 656
- Toads, 64
- Tobacco, from America, 41; from Angola, 685; chewed by Tuareg, 370; as currency, 612; as gift to ancestors, 550; methods of cultivation of, among Ovimbundu, 588; presented to mother-in-law, 412; some Mohammedans prohibit, 387; used by Bushmen, 332; uses in Africa, general account, 332; see Smoking
- Tobacco pipes, bead-work ornament for, 642; of brass, 632; of Bushmen, 88, 330; made by men, 644; see Nagile
- Toes, beads held with, during manufacture, 634; see Counting

- Togoland, added to German Empire, 656; divided under mandates, 672; drum language in, 321; religious ideas in, 545
- Tomatoes, eaten by Ovimbundu, 588
- Tombs, of hunter, 598; of hunter among Ovimbundu, 598; of kings in Ashanti, 549; in Madagascar, 156; of saints have healing power, 394; of stone, 153, 154, see Stone monuments; visited by ghost, 75
- Tones, in Bantu languages, 298; in Bushman languages, 292; in Sudanic languages, 295
- Tongues, anointed, 532
- Tonkoh*, part of camel equipment, 382
- Toole (Ensign), explorations of, 655
- Tools, of blacksmith, 629; for carving gourds, 620; used in making pottery, 632; used in wood-carving, 614; see Handicrafts, Occupations, Stone implements
- Topography, 28; and culture, 325-327; see Maps
- Tops, as playthings, 445
- Tornadoes, in Nigeria, 34
- Tortoise, carapace of, used as spoon, 331; eaten by Yoruba, 606; as food, 67; points, of stone, archaeological term, 106; shell, as part of Bushman musical instrument, 336; shells of, as charms, 578; shells as receptacles for arrow poison, 333; a totem emblem, 485
- Torture, for adultery, 514; see Murder, Punishment, Theft
- Totems, 484-493; doubtful use of term, 484; ideas of, 61; and kinship terms, 471; and psychoanalysis, 284; and reincarnation of ancestors among Dinka, 564; used by Pygmies, 342
- Trade, African, 609-613; and diffusion of language, 613; between Europe and Africa, 688; European, with Africa, 672-689; and firearms, 526; of Phoenicians, 79; silent, 650; in slaves, 41; and tobacco, 41; see Caravans, Currency, Ivory, Markets, Money, Slaves, Transportation
- Trade winds, and climate, 38
- Transformation, 580; see Transmigration
- Transjordan, measurements on Arabs of, 198
- Transmigration, 580; of soul, 562
- Transport, brief survey quoted, 50; by camels, 361-378; of cattle, illus., 357; cattle used and not used in, 354-356; and tsetse fly, 71; weight of loads in, 613; of wheat, 50; see Airplanes, Camels, Canoes, Donkeys, Horses, Lakes, Oxen, Porters, Railways, Rivers
- Transvaal, archaeology in, 89; human fossils in, 95; marriage customs in, 411; political, 677; railway communications in, 676; and tsetse fly, 71
- Traps, distribution of types of, 600; for fish, 602; used by Bushmen, 334
- Travel, rate of, oxen and camels in, 56
- Trays of brass, illus., 631
- Trees, ceremony before felling among Bathonga, 402; inhabited by demons among Kababish, 386; sacrifice to, before felling, 644; see Forests, Timber, Wood-carving
- Trephining, in Algeria, 395
- Tribes, divided between political units, 672; marks of, see Scarification; names of, on maps, 28; sources for names of, 408; see Map 1, facing p. 16
- Triplets, 433
- Tripoli, camel caravan from, 686; Italian possession, 685; pottery of, 80; a starting point in early exploration, 655
- Tripolitania, Jews in, 83; population of, analyzed, 396; rock engravings in, 141
- Trocadero Museum of Paris, stone implements in, 133
- Tropical diseases, source for study of, 694
- Trumpets, blown in warfare, 531
- Trypanosomes, 70
- Trypanosomiasis, in horses, 71
- Tsetse fly, 70; and history, 71; in Rhodesia, 677
- Tuareg, 54; aphorisms of, 309; attitude of, toward Arabs, 86; blending of kinship systems of, 474; caravans of, in Tripolitania, 395; clothing of, 364; conflicts with the French, 657; decorative art of, 83; engravings of, on rocks, 141; history of, 253; illus., 193, 362, 363, 365; life and customs of, described, 362-372; literature about, 364; main divisions of, 364; malaria and smallpox among, 694; material culture of, 364-369; and Mohammedanism, 85; physical features of, 364; physical measurements on, 198; pigmentation of, 364; probable future of population, 693; proverbs of, 366, 371, 372; raids of, on Tibesti, 373; religion and social organization of, 369-372; slavery among, 535; wear stone armlets, 274; writing of, 79
- Tubulidentata, 64
- Tuckey (Captain), explorations of, 661

- Tuggurt, railway center of Algeria, 681
 Tumbian culture, in Congo region, 133;
 in Uganda, 122
 Tunis, Bedouin-Arabs from, illus., 185,
 187, 191, 192
 Tunisia, Bedouin life in, 394; French
 and Italian interests in, 686; Jews
 in, 83; political, 681
Turacus livingstonii, plantain-eater, 68
 Turbans, 392; worn in Tibesti, 373
 Turkana, hair-dressing of men of, 270;
 physical measurements of, 181
 Turkey, change in Mohammedan law
 in, 390
 Turks, capture Egypt, 89; loss of pos-
 sessions of, in Africa, 685
 Turtle, in proverbs, 310; see Tortoise
 Tusks, 54; see Elephants, Ivory
 Tut-Ankh-Amen, tomb of, 74
 Tweezers, 392; made by blacksmith, 629
 Twins, and ceremony in market, 611;
 customs relating to, 433-435, 437-
 441; wooden figure of dead twin
 carried, 433
 Typology, of stone implements, 160;
 see Archaeology, Stone implements
 Tyre, Phoenician city, 78
- Ubangi River, explored by Marchand,
 665
 Ubangi Shari, French political unit, 683
 Uganda, ancient terracing in, 157;
 archaeology of, 118-123; compre-
 hensive handbook on, 673; custom
 of killing king in, 75; handbook for,
 29; importance of cattle in, 351;
 journal for, 52; labor laws for Africans
 in, 697; males make pottery in, 620;
 political and commercial, 680; trade
 with cowrie shells in, 611
 Ujiji, and explorations of Livingstone,
 667
 Umbilical cord, cut by father, 385;
 treatment of, 432, 439
 Umbrellas, used at initiation, 465;
 among Yoruba, 551
 Umbundu language, 288; examples
 from, 297, 298; names for trees, 44;
 see Ovimbundu
 Umpata (Angola), research in animal
 husbandry at, 635
 Umsilikatsi, Zulu Chief, 71
 Uncle, duties of, among Kababish, 385;
 important among Tuareg, 474;
 mother's brother, 472; mother's
 brother, functions of, among Ovim-
 bundu, 476; obligations of, among
 Jukun, 481; see Family, Kinship
 Unconscious mind, 283
- Ungulates, 55-60
 Unilateral descent, of Bakongo, 479
 Union of South Africa, defects in educa-
 tion of, 704; educational and political
 problems of, 714; and minerals, 25;
 musical instruments in, 455; political
 crisis of, 695; political divisions of,
 677; problems of administration and
 literature relating to, 718
 United Kingdom, trade of, with Sierra
 Leone, 675; see Britain, England
 United States of America, 24; size of,
 20; see America
 Unkulunkulu, Zulu God, 543
 Unlucky days, 386
 Upper Volta, a French possession, 683
 Utensils, carved from wood, 616; for
 milk, customs relating to, 356; used
 by Ovimbundu, 410; of wood among
 Kababish, 383; of wood among
 Tuareg, 368; see Bark, Baskets,
 Brasswork, Iron, Pottery, Wood-
 carving
Utfa, part of camel equipment among
 Kababish, 382; used in Tripolitania,
 395
 Uthlanga, Zulu God, 543
- Vaal River, 678; terraces of, studied, 31
 Vachokwe, albinos among, 256; canoes
 of bark among, 604; curing the sick,
 577; make bark cloth, 627; observa-
 tions on, by Cameron, 668; physical
 measurements of, 176
 Vai writing, 302, 306
 Vais, secret society of, 500
 Vakwanyama, clothing of, illus., 353;
 and cosmetics, 260; granary of, illus.,
 589; houses of, illus., 355; and political
 division of tribal units, 672; prepa-
 ration of hides by, 607; use assagais,
 526
 Valenge, initiation of girls among, 462
 Valleys, 21, formation of, 22
 Valuchazi, physical measurements of,
 176
 Vampire, 62
 Vandals, 82
 Vangangella, make bark cloth, 627
 Vanhaneca, hair-dressing of, 270
 Vannutelli, explorations of, 670
 Vanyemba, initiation of girls among,
 460
 Varnish, applied to pottery, 634
 Vasco da Gama, explorations of, 651
 Vasele, nose ornaments of, 262; scarifi-
 cation of, 260; teeth mutilated
 among, 262; village defenses among,
 521; visited by Monteiro, 664

- Vegetables, 672-689; collected by Bushmen, 334; collected by women, 341; as drugs, used by medicine-men, 576; as food, considered unclean by cattle-keepers, 349; grown in Air, 50; stews of, 42; see Agriculture
- Vegetation zones, 32-34, 41-50; see Botany, Climate, Forests, Rainfall, Timber, Trees
- Veils, disregarded by Tuareg women, 371; for Tuareg women, 366; for women in Libya, 377; worn by Tuareg men, 362
- Veneral disease, fear of, 427; see Diseases
- Venice, Byzantine architecture in, 83
- Ventriloquism, in consulting figurine among Ovimbundu, 610; and puppet shows, 319
- Veterinary science, in Morocco, 683
- Victoria Falls, 678; on the Zambezi, 24
- Victoria Nyanza Lake, 22; cattle culture near, 349; explorations of, by Speke, 669; and fossil man near, 92; and Kanam mandible, 98; types of canoes used on, 604
- Victoria West, stone-age site in S. Africa, 128
- Villages, blood brotherhood of headman of, 493; defense of, 521; defense of, illus., 523; depopulated by European demands for labor, 697; and exogamy, 490; as totemic units, 487; as units of government, 495-497; see Chief, Law
- Vine, 41; introduced into Madeira Islands, 651; see Grapes
- Virginity, 410-411; and infibulation, 536
- Vischer, and Saharan explorations, 661
- Vital statistics, 690-696; see Demography, Health
- Vivaldi, explorations of, 670
- Vôdoun, God of Dahomey, 546
- Vodu, worship in Dahomey, 546
- Vogel, companion of Barth, 655
- Volcanic plateaus, 32
- Volcanoes, 21
- Voulet, and French exploration, 657
- Voyages of discovery, 649-671; periplus, 76; see Exploration, Phoenicians, Portuguese
- Vultures, 68
- Wabena, physical measurements of, 179; and terracing, 157
- Wachagga, age-grades of, 504; sexual morality of, 411
- Wadai, crossed by Nachtigal, 656; and Italian exploration, 670; slave trade in, 536
- Wadies, in Egypt, 109; how formed in Sahara, 361
- Wadi Halfa, on White Nile, 680
- Wadi Telisaghé, and rock sculpture, 137
- Wadschagga, physical measurements of, 178; see Chagga, Wachagga
- Wady Sheikh, paleoliths at, 106
- Waf, Egyptian political organization, 673
- Waganda tribe, uses of bananas in, 42; see Baganda
- Wahehe, military system of, 529; slavery among, 538
- Waikoma, age-grade ceremonies, 504
- Walata, descent how reckoned, 480
- Walfish Bay, minimum rainfall at, 34
- Walls, around cities, 522; of mud, 366; at Zimbabwe, 88
- Wandali, physical measurements of, 179
- Wandorobo, 346; houses of, illus., 601; see Dorobo
- Wanyakyuma, physical measurements of, 178
- Wanyamwezi, eat earth, 593; physical measurements of, 178, 179; see Nyamwezi
- Warfare, 521-533; and age-grade organization, 502-506; and blood-feuds among Kababish, 384; in boys' games, 444; conquerors have no right to the land, 401; customs observed in, by chief among Banyankole, 350; grass as a sign of peace in, 352; horses used in, 55; among Kababish, 383; magical element in, 525, 529, 531, 532; magical water drunk in, 502; and mixture of population, 245; Rome and Carthage in, 80, see History, 72-87; songs of, 317; and trade rivalry, 26; of Tuareg, 370, 371; of Tuareg now checked, 369
- Warji, abduction of women among, 418
- Warhogs, 20; in Air, 362
- Washashi, work in bark, 626
- Washing, ceremonial, 464, 466; ceremonial, after childbirth, 440; ceremonial, for the sick, 576; of ceremonial spear, 491; before prayer, 387; of totem, 488
- Wasukuma, work in bark, 626
- Water, carried in goat-skins, 390; carried by women in house building, 620; ceremonially used by secret society, 502; and construction of railways over Sahara, 682; drunk in large quantities as punishment, 530; gazing, by priests in Ashanti, 574; holes, illus., 53; holes, in Kalahari, 330; for king, 486; method of smoking tobacco and hemp through, 590; in ostrich eggshells, 68,

- 333, illus., 335; and parasitic worms, 70; pipes, for tobacco among Bushmen, 332; poured on ground for ancestors, 582; requirements by different grain crops, 46; skins, used by Kababish, 382; sucked from ground by Bushmen, 333; supply, in baobab trees, 329; supply, in Kordofan, 381; supply, in Sahara, 361; supply, in Tripolitania, 686; transported across Sahara, 56; of Tuareg, 367; underground supplies of, 34; see Irrigation, Lakes, Rainfall, Rivers, Wells
- Watta, hunters of Abyssinia, 346
- Watwa, hunters of E. Africa, 346
- Wax, of bees, used in trade, 608; as currency, 612; used for hair-dressing in Tibesti, 373; used in making dolls, 446; used in metal casting, 630
- Wazaramo, albinos among, 256
- Weaning, 438; see Lactation
- Weapons, 521-527; ceremonial, in rain-making by Lango tribe, 491; charms against, 578; in Tibesti, 373; of Tuareg, 368; see Arrows, Bows, Daggers, Knives, Shields, Spears, Swords, Warfare
- Weather, studied by Ovimbundu, 606; see Climate, Rainfall
- Weaver birds, 68; illus., 69
- Weavers, 392
- Weaving, 635-642; in Algeria, 395; in ancient Egypt, 73; in Ashanti, 644; of clothing, 270; of cotton, illus., 637, 638; of raffia, 42; see Cotton, Dyes, Looms, Raffia, Wool
- Weddings, among Kababish, 386
- Weights, 611; of brass in Ashanti, 612; and measures, 611-613; of stone for digging-sticks, 123
- Weirs, among Bushmen, 333; used in fishing, 67, 603
- Welfare of Africans, 690-719; for details, see Table of Contents
- Wellcome Laboratories, as a source of information on the Sudan, 680
- Welle region, stone implements from, 133
- Wells, 28, 55, 361; known by camels, 376; in Libyan oases, 375; in north Africa, 394; not poisoned, 370; in oases, 25; in Sahara, 56; and the shaduf, 77; of southern Angola, 684; in Sudan, 55; see Irrigation, Water
- West Indies, and *chigoe flea*, 70; slave trade with, 40
- Wheat, 50; grown by Tuareg, 366; from Mesopotamia, 76; in N. Africa, 681
- Wheels, for pumping water, 56
- Whips, used in ceremony among Fulani, 463; used in endurance contest, 446; used in Mohammedan religious ceremony, 393
- Whistles, 452; call ghosts among Ovimbundu, 557
- Whistling language, 318
- White Nile, 24, 668; communications along, 680; see Egypt, Nile
- White rhinoceros, where found, 59
- Whorls, for spindles, 89
- Wicker, shields of, 522; work, 42; see Baskets
- Widows, how disposed of, 481; inherited, 512; under Mohammedan law, 390; new husband sacrifices to ghost of former husband, 562; among Ovimbundu, ceremonies at husband's death, 558; regard of, for dead husbands, 513; restriction of sexual intercourse for, 562; see Inheritance, Levirate
- Wife, chief, rights of, 422; lending of, 424; taboos of, while husband absent, 529; see Betrothal, Divorce, Family, Marriage, Polygyny
- Wild cats, in Air, 362
- Wild dogs, 60; never domesticated, 58
- Williams (Sir Robert), and engineering, 676
- Wilton, culture, 126; industry, compared with Capsian, 129; stone age industry, 129
- Windham, visit to Benin, 658
- Windhoek, railway communications of, 676
- Winds, 22; and elevation, 21; see Climate, Rainfall
- Wine, exported from S. Africa, 678; from palm sap, 41, 46; poured over tools, 644
- Wire, arm and leg ornaments of, 274; made by blacksmith, 629
- Wissmann, explorations of, 665
- Witchcraft, ancestors' help against, 560; in Ashanti, 572; among Bathonga, 572; charms against, 274; for detecting cowards, 530; education to combat, 706; as grounds for divorce, 422; inherited powers of, 572; questioning corpse to decide about, 557; in Siwa oases, 393; see Charms, Evil eye, Magic, Medicine-men, Wizard
- Witnesses, in legal procedure among Ovimbundu, 509
- Witwatersrand, gold mining at, 678
- Wives, of king killed, 549; see Family, Marriage, Polygyny, Wife
- Wizards, how power is obtained by, 574; see Medicine-men, Witchcraft

- Wolofs, reckoning of descent by, 480
 Women, age-grades of, 503; of Bavenda must not fish, 604; of Bushman tribe, physique of, 214-216; collect wild produce, 604; descent reckoned through, among Bakongo, 479; of Fulani, milk cows, 358; high social status of, in Ashanti, 549-550; lives and work of, among Berbers, 395; in military service in Dahomey, 527; not allowed near boys' camp, 460; occupations of, among Tuareg, 367; occupied in fishing, 603; and Ovimbundu ceremony, 410; as priestesses and medicine-women, 574; recent emancipations of, in Egypt and Turkey, 390; restrictions against, 525; rights of, to clothing and, ornament among Ovimbundu, 421; rights of, under Negro law, 511; rights of, among Pygmies, 342; secrets kept from, 319; and slavery, 536; slaves, treatment of, 538; social status of, in Abyssinia, 688; social status of, in royal houses, 548-552; social status of, in secret societies, 498-502; social status of, among Shilluk, 416; social status of, among Tuareg, 371; status of, among Kababish, 385; status of, among Negroes, 419; transmission of clan name to, in Ashanti, 471; used for plowing, 586; work of, in agriculture, 587; work of, among Bushmen, 332; work of, among Pygmies, 341; see Ashanti, Labor, Sacred kings
 Wood, fiber of, used by Bushmen, 331; figure of, with nails driven in, and magical use of, 579; shields of, 522; see Forests, Timber, Trees
 Wood-carving, 44; of Benin, illus., 618; of blacksmith's bellows, 629; of Kababish, 383; of Negroes, 614-626; of Nigeria, 617; and ritual in Ashanti, 644; of snuff boxes, 590; by Tuareg blacksmiths, 367; see Animals, Beds, Combs, Drums, Gourds, Houses, Masks, Pillows, Posts, Spoons, Stools, Tools, Utensils
 Wool, goods of, of Phoenicians, 79; for rugs by Kababish, 382; weaving of in N. Africa, 636; see Sheep
 World War, 50, 681; political effects of, 685; and Turkish rule, 89
 Worms, parasitic, 70; used in fishing, 603
 Worship, and agriculture, 398-404; of Pygmies, 345; see Ancestors, Magic, Medicine-men, Mohammedanism, Prayer, Rain-making, Religion, Sacred groves, Sacrifice
 Wrestlers, 446; in bazaars, 390
 Wrestling, with iron wristlets, 526
 Wristlets, of iron, 526; with spikes, 446
 Writing, ancient Egyptian, 75; mythical origin of, 305; painted on faces of girls, 308; in secret society, 501; specimens of, 302-309; systems desirable for African languages, 704; tablets from palm leaf used for, 46; see Koran, *Mallam*, Texts
 Written history, 72
 Würm glaciations, 104
 X-ray photographs, of mummies, 74
 Yakan, secret society of Lugbwara tribe, 501
 Yalala Falls, on Congo River, 24, 652; reached by Captain Tuckey, 662
 Yams, from America, 41; offered in sacrifice, 401; sacred ceremony of, 549; sacrificed to Nyame, 545; where grown, 44
 Yao, educational possibilities of, 702
 Yarda oasis, rock engravings at, 142
 Yauri, and exploration by Landers, 659
 Yaws, 71; and decline of population as result of, 693
 Year books, 29; see Handbooks, Bibliography of Periodicals
 Yellow fever, 70-71; research on, at Lagos, 693
 Yemen, measurements on Arabs of, 198
 Yola, head-hunting in, 532; river communication with, 676
 Yolofs, joking relationship of, 492; and stone monuments of, 154; see Wolofs
 Yoruba, age-grades of, 505; agricultural rites of, 401; and Carthaginian influence, 80; carving of gourds among, 620; clans and totems of, 489; dolls of, 446; drum language of, 321; law relating to murder among, 518; make stone beads, 634; military organization of, 528; priests among, 76; religious beliefs of, 547; reverence for celt among, 134; secret societies of, 501; special cultural developments of, 407; symbolic messages of, 320; use impluvium, 82; various foods of, 606
 Yusuf, and history of western Sudan, 86
 Zagawa tribe, 85
 Zaire (old name for Congo), explored, 652
 Zambezi River, 22, 24; Portuguese exploration of, 653; stone implements from, 124; stone implements near, 126; terraces of, studied, 127
 Zande, see Azande

- Zanzibar Protectorate, imports and exports of, 679; rice grown near, 42; slave markets in, 245
- Zaria, head-hunting in, 532
- Zebras, 59; illus., 53; poisoned by Bushmen, 334
- Zebu cattle, 595
- Zechariah, reference to Phoenicians, 78
- Zeila, modern name for ancient Adule, 158
- Zenaga, rock engravings at, 138
- Zendj, 88
- Zimbabwe, 87-89
- Zinc, mined in S. Africa, 678
- Zinder, remarkable camel journey to, 369; and trade, 26; Tuareg near, 363
- Zolat el Hammad, rock sculpture at, 143
- Zones, of culture, 325-327; stone age culture in W. Africa, 135; of vegetation, 32-34, 41-50; see Culture areas, 325-398
- Zoology, in Sahara, 361, 362; see Animal life
- Zoomorphic symbols, 61; see Animals, Totems
- Zulu, assagais of, 526; beliefs of, in multiple soul, 560; cults of the dead, 584; destructive wars against, 691; fur cloaks of, 60, 270, 635; language, clicks in, 291, examples from, 298; military organization of, 530; northern migration of, 245; physical measurements of, 176; physiological tests of, 236; religious ideas of, 543; sexual morality of, 411; shields of, 522
- Zumbo, and Portuguese exploration, 653

BIBLIOGRAPHICAL INDEX

Should be used in conjunction with the "General Index"

- Ababda tribe, 799
 Ababua tribe, 770
 Abomey, study of art and architecture at, 755
 Abyssinia, 788; Amharic language of, 743, 751; archaeology of, general, 735; art and natural history of, 765; bibliogs. for, 863-864; ethnography of, Cohen, 751; ethnological groups in, Cerulli, 749; ethnological studies of, two articles on, 788; ethnology of Danakil, Galla, Harari, Somali, 803; ethnology of Galla tribe in, 749; exploration of, about 1885, 748, in Ghimirra, 798, by Lobo, 789, by Salt, 811, by A. D. Smith, 818, of southern border, 795, by Vannutelli, 827; Falashas, travels among, 821; general description of, 2 vols., 834; history of, 808, modern, 1935, 780; Italian conquest of, 733; Italian difficulties in, 742; life in, 803; linguistic studies of, 751; Magdala, campaign near, 820; megalithic monuments in, 800; monograph of, on Kaffa tribe, 740; Portuguese embassy to, 734; religion in general, C. H. Walker, 828; and search for source of Nile, 736; travel and description of, 795; travels of Lobo in, 834
 Acculturation, 808; Herskovits, 1937a, 773; see Culture changes, Culture contacts, Culture patterns, Diffusion of culture
 Achimota College, study of Negro foods at, 762
 Adamaua, Bachama tribe of, 762; monograph on, 803
 Administration, Africans' point of view on, 769, Perham, 1936a, 804; of Anglo-Egyptian Sudan, MacMichael, 792; anthropology and the practical man, 818; British policy on, 761; and conflict of races in Africa, 770; and constitutional position in S. Africa, 826; and cultural changes in Babemba tribe, 809; culture contacts, and determination of policy, 828; and educational problems in S. Africa, 775; and French colonial policy, history of, 809; French policy in Africa, 799; and indirect rule, 804, meaning of, 802; in Kenya, some problems of, 787; of Kru tribe, 796; law and custom of, in S. African constitution, 782; native policies on, 793; of, natives in Union of S. Africa, 810; in Nigeria, Norden, 801; at peace conference, 738; problems of, 768, 791; and race problems in New Africa, 832; and reservations for natives in Bechuanaland, 812; scientific aspects of, 793; in south Africa, various articles by Brookes on, 743; and tribal control, evolution of, 801; Westermann, 1934, 831; see Bibliogs. of European possessions, 840-866; see Politics
 Adultery, Vendeix, 827; see Marriage
 African Society, London, catalogues and bibliogs. of, 842
 Afrikaans, origin and development of, 769
 Agades, chronicles of, 803
 Age-grades, in Tanganyika Territory, 735; societies, 790
 Aggrey beads, from Gold Coast, 748
 Agni tribe, bibliog., Delafosse, 859; customs, manners, and religion of, 823
 Agriculture, African methods of, 770; and division of work between sexes, 737; and the earth goddess in west Africa, 780; and nutritious grasses of E. Africa, 815, see Botany; and sub-soil water, development of, 824
 Air, rock engravings of, De Zeltner, 1913, 835; see Tuareg
 Akamba tribe, 774, 789; article on, 740; bibliog. on, 846; dreams of, 739; folklore, proverbs, and riddles of, 789; and fortune telling, 739; long article, 822
 Akas, measurements of skeletons of, 763; see Pygmies
 Akikuyu tribe, calendar of, 759; large monograph on, 811; long article on, 822; religion of, 748, 782; some aspects of, 787; suicide among, 738
 Albert Nyanza, exploration of, 736
 Algeria, Berber tribes, general work on, 832; bibliogs. for, 856; ethnographical studies of, 766; evidence of Roman occupation in, 741; Kabyles of, general account, 771, 773; magical beliefs in, 773; people of, 735; periodical Hespérus, 729; Pleistocene mammals of, 810; rock engravings of, 763; stone implements from caves of, 734
 Ama Fingo, circumcision ceremony of, 815; see Fingo, Natal, Zulu
 Ama Ndebele tribe, taboos and etiquette of, 754

- Ama Xosa tribe, circumcision rites of, 815; life and customs of, 818; see Zulu
- Amatonga, 788
- Ambo tribe, 827
- America, bibliographical sources in libraries of, 840; Negroes in, bibliog. of, Work, 845, dimensions of body of, 825, Herskovits, M. J., 773, periodical JNH, 730, NYB, 731, physical studies of, 776, T. W. Todd, 825; periodicals AA, 728, AI, 728, AJPA, 728; studies of Negro physique in, 773
- Amharic, standard work, 743, by Cohen, 751
- Amulets, Spanish forms of, 773
- Anatomy, of foot of S. African native, 380
- Ancestor cults, of Eyap tribe in Cameroons, 793
- Ancestor worship, 811; in Aikuyu tribe, 782; in Ashanti, 750; among Banyamwezi, 741; secular aspects of, 758; of Wa Barwe tribe, 817; see Religion
- Anglo-Egyptian Sudan, Bari tribe, initiation in, 819; bibliogs. of, 845-846; Fung tribe, kingship of, 810; government handbook on, 767; Hamitic problems in, 815; historical, 792; and international relations, 790; Lotuko tribe, article on, 819; Mongalla Province, tribal survey in, 800; Nuba tribe, customs, history, and religion of, 811; periodical reports, Wellcome, 830; periodicals WTRL, 732; and Uganda, 2 vols., 832; see Blue Nile, Khartum, Kordofan, Mongalla, Red Sea Province, Sennar, Sudan, White Nile
- Angola, bibliog. for, 837-838, 862, from year 1500-1900, 741; Bushman tribes in, 740; circumcision rites of Bajok (Vachokwe) tribe in, 775; early travel in, about 1879, 775; ethnography of, in Cunene region, 755; ethnological handbook and general survey of tribes, in Portuguese language, 757; ethnology, recent (1936) travel, and general information of, 779; ethnology and general information, Marquardsen, 794; exploration of, 761, 798, Pogge, 805; folklore from, 749; general ethnology of, 737, Delachaux, 755, Jaspert, 779; journey through, 820; medicine-man's outfit from, 758; mission interests in, J. T. Tucker, 826; Ovimbundu tribe of, Hambly, 770, 771; physical anthropology of tribes in, Cardoso, 748; researches of Chatelain in, 749; review of Hambly's Ovimbundu of, 774; traces of Bushman influence in, 761; travel and ethnological notes on, 812; travels in a motor truck in, 770; Vachokwe tribe in, 737; see Portuguese West Africa
- Angoni tribe, chieftainship among, 808; see Ngoni
- Animals, and beliefs of Zulus, 740; life of, in E. Africa, 740; worship of, long article, Weissenborn, 829; see Totemism
- Animism, in Ibo tribe, 752; and Negro art, 771; and thought of primitive children, 795; among Yaos in Nyasaland, 773
- Anthropoid apes, man's relation to, 768; see Paleontology, Physical anthropology
- Anthropological Institute, London, index to Journal of, 840
- Anthropologischer Anzeiger, a bibliographical source, 840
- Anthropology, bibliog. of, Thomas, 841
- Anthropometry, of Angolan tribes, Cardoso, 748; of Arabs and Bathonga, 750; of Bavenda tribe, 820; bibliog. for, Martin, 841; of Cameroon tribes, Mansfeld, 793; of Chagga tribe, thirty skulls measured, 831; of cranial capacity and linear dimensions 825, see Cranial capacity, Physical anthropology, Skulls; of eastern Sudan, 826; of Eritrea, 737; Hausa, a hundred measured, 826; of Negro skulls, 739; of Somali tribe, 806, 807; textbook on, 776; of tribes in E. Africa, 780; W. African Negroes, a hundred measured, Weninger, 830; see Physical anthropology
- Anuak tribe, 735
- Apiculture, of Africa, general, Seyffert, 816
- Arabia, Arabian travelers and authors, Slane's translations, 818; Bedouin Arabs of northern, 762; bibliog. of, works on, Gay, 842; historical, 775; language of, handbook on, 832; physical anthropology of, in southern portion, with measurements, 823; travels of Doughty in, 758
- Arabs, bibliography of, Chauvin, 842, Mac Michael, 846; civilization of, 772; culture of, in E. Africa, 774; dances of, 818; as explorers and geographers, 778; folklore stories of, 776; games and puzzles of, 754; historical and geographical observations on, by Palmer, 803; history of, in Africa, 738, 774; medicine and surgery of, 773; music of, important article, 832;

- outline of literature of, 766; physical characters of, 815; of Transjordan, physical anthropology of, 817
- Archaeology, in Abyssinia, 735; of Algeria, 734; of Algeria and Tunisia, 741; and ancient civilization of Rift Valley, 832; and ancient hunters, 819; of Aurignacians, 751; and Azanian civilization of Kenya, 777; of Bambata Cave, 735; of Belgian Congo, stone implements from, 796; bibliog. of, Leakey, 843; Byzantine, 754; of Canary Islands, 751; of Carthage, 756; of Cathkin Peak, Natal, 830; of cave paintings of Pyrenees, 748; of caves, implements and shell-mounds in S. Africa, 787; of clay heads and stone age pottery from Ashanti, 832; and collections at Trocadéro Museum, 782; and comparison of paleoliths of Europe and Africa, 742; a compendium of, Ebert, 760, 841; of Egypt, recent research in (1929-1934), Sandford, 812; and exploration of caves in S. Africa, 782; and Fezzan region, 835; general, of Africa, 743; general, in S. Africa, 743, 762; among Kabyles, 789; of Kenya, stone age cultures, 787; of Kerma, excavations at, 809; at Marsa Matruh, 737; of Mashonaland, 739; of mediaeval Rhodesia, 791, 807; near Cairo, 742; of *Nomori*, figures, 733; in north Africa, 765; and periodicals *Antiquity*, 728, *CIAA*, 729, *JEA*, 729, *JPEK*, 730, *RAr*, 731; and Pleistocene pluvial periods in Uganda, Wayland, 829; of Pygmy implements, 733; of Rhodesia, 826; and Rhodesian man, 806; of rock engravings of N. Africa, 763; and ruined towns of Somaliland, 753; of Sahara (central), 804; of Sébilien stone industry, 828; in S. Africa, 765, 767, 779, 790, Lebzelter, 787; of S. Africa, periodical *PRSA*, 731; of Spanish caves, 809; of stone age of all Africa, 787; of stone age culture of S. Africa, 796; of stone age sites in Northern Rhodesia, 792; of stone huts of Vechtkop, 790; of stone implements, in British Museum, guide to, 808, of Natal, 811, of Nigeria, 743, from Somaliland, 816, of S. Africa, 762, from Taungs, 780, world distribution, Menghin, 1931, 796, from Zambezi Valley, 786; and study of climatic changes, 743; in Tripolitania, Frobenius, 765; typological method of, 768; of W. Africa, 785; see Egypt, S. Africa, Zimbabwe
- Archiv für Anthropologie, bibliographical source, 840
- Ardra, W. Africa, evangelization in seventeenth century, 785
- Arrows, African forms of, Weule, 831; of Bushmen, 790; poisons for, 770, 800; see Bows and arrows
- Art, in Africa, general work on, Ponce-ton, 805; African forms of, Frobenius, 765; *Afrikanische Plastik*, 801; baked clay heads from Formena Ashanti, 832; of bas-reliefs of Abomey and Dahomey, 829; bibliogs. on, Sydow, 844; Byzantine forms of, 754; chiefly wood-carving in W. Africa, 821; comparative world-wide study of, 772; of Dahomey, 808; disappearing from Gaboon, 768; Einstein, 760; gourds decorated, 768; of Habbe tribe, 783; and handicrafts, education of Bemba youth in, 807; and industries of N. Africa, 809; Mohammedan influence on, 757; of Negroes, books and articles on, 751, 769, Sydow, 822, psychology of, 792, in relation to animism, 771; in Negro sculpture from W. Africa, 750; and New York Museum of Modern Art, bibliog., 844; of N. Africa and Sahara, 765; paleolithic, in Spain, 743; in periodical *Cahiers d'Art*, 729; plastic forms of, in Cameroons, 766; principles of, among primitive people, 741; and religion in Ashanti, 807; and Spanish caves, 809; survivals, of successive styles in N. Africa, 800; of Tuareg, 767; of W. Africa, 772, bibliog. of, Sadler, 852; in wood-carving of Ivory Coast, 774; in wood sculpture in W. Africa, 811; in wooden statuettes, 770; see Basketry, Benin, Bronze Gourds, Handicrafts, Iron, Ivory, Rock paintings, Rock sculpture, Weaving, Wood-carving
- Asben records, 803
- Ashango tribe, 759
- Ashanti, about 1874 and 1878, 742; ancestor worship in, 750; bibliog. for, 836, 852; campaign in, 820; clay heads from, 832; conditions of, about 1875, 769; general description of, about 1840, 738; general description of social life in, 751; general ethnology of, 748; gold weights of, 824; golden stool of, 818; historical, 808; iron disc currency from, 832; Kumasi described, 740, 795; marriage customs of Fanti in, 762; and numerous contributions of, Rattray, 807; Pittard, short article, 805; pottery of stone age from, 832; and substantial ethnological contribution of, Perregaux, 804; travels of Freeman, in

- 1898, 764; war organization in, 779; see Gold Coast, Northern Territories
- Asia, culture contacts of, with Africa, 774, see Egypt; geographic conditions of, 777; see Culture contacts, Diffusion, Migration
- Astronomy, and Suto beliefs, 740; see Moon, Sun
- Atchwabo tribe, sacrifice and prayer among, 814
- Atharaka tribe, 749
- Atlas, of African arts, customs, and handicrafts, Frobenius, 765; economic, Bartholomew, 737, 766; Times, 29
- Atutu tribe, wood-carving of, 774
- Atxuabo tribe, in Portuguese E. Africa, initiation of girls among, 814
- Aurignacians, archaeology of, in Europe and N. Africa, 751; see Archaeology, Stone implements
- Autobiography, of H. M. Stanley, 819; see Biography
- Axes, of stone in N. E. Congo, 807; see Archaeology, Celts, Stone implements
- Azande tribe, blood brotherhood in, 761; book concerning, 785; and Evans-Pritchard, 761; magic among, 761, 768; material culture of, 737; medicine-men of, 761; oracles of, 761; religion of, 805; therapeutics in, 761; two important articles on, 786; witchcraft in, 761
- Azanian civilization, in Kenya, 777
- Baamba tribe, of N. E. Congo, short article on, 829
- Babali, history and migration of, 742; initiation rites of, 742
- Babemba tribe, cultural changes among, 809; short article on, 785
- Babenga tribe (Sanga Pygmies), ethnological notes on, 808
- Babudja tribe, marriage among, in Southern Rhodesia, 832
- Babunda tribe, weaving of, 780
- Bachama tribe, of Adamaua, 762
- Bafia tribe, in Cameroons, general culture, monograph on, 823
- Baganda tribe, book on, 772; land tenure among, 793; Mair, 1934b, 793; make bark cloth, 734; a monograph on, Roscoe, 810; study of customs among, 781; totemism in, 793; traditions of, 771
- Bagba tribe, divination among, 756
- Bagesu tribe, monograph on, Roscoe, 811
- Baggara tribe, brief notes on, 786, 834
- Bahanga tribe, long article on, 819
- Bahima tribe, article on, 810
- Bahinda tribe, 823
- Baholoholo, Belgian Congo, book on, 814
- Bahr-el-Ghazal, Dinka tribes of, 753, 825
- Bahuana tribe, brief article on ethnology of, 825
- Baia tribe, elephant hunting, and equipment for, 816
- Baila tribe, some sex customs of, 743
- Baja tribe, in Cameroons, long article, 771; general culture, monograph on, 823
- Bajok (Vachokwe) tribe, circumcision rites of, 775; see Vachokwe
- Bakarewe tribe, religion and domestic life of, 777
- Bakhaka tribe, circumcision rites of, 781
- Bakimbasa, notes on, by Bittremieux, 740
- Bakitara tribe, 811
- Bakoko tribe, in Cameroons, book on, 801
- Bakongo tribe, ethnological work, Weeks, 829; prayers, religion, and sociology, Wing, 833
- Bakonjo tribe, pottery of, 801
- Bakuba, Torday, Joyce, AMCB, ser. 3, t. 2, fasc. 1, 1910, 1-286
- Bakxatla tribe, cattle, herding rites, magic, medicine, riddles, and Western civilization, Schapera, 812-813
- Balemba tribe, short article on, 820
- Balobedu tribe, social significance of beer among, 784
- Baluba tribe, 751; book on, 827
- Bama tribe, in Cameroons, 770
- Bambala tribe, brief article on, 825
- Bambara tribe, 736; monograph on, 798; religion of, 823; social life of, 772
- Bambata, stone implements, caves, 735
- Bambutu, Congo Pygmies, 813
- Bamum (Bamoun) tribe, in Cameroons, writing of, 752
- Banda tribe, in French Equatorial Africa, 753
- Bangala tribe, monograph on, 802; several important articles on, 829
- Banjangi tribe, in Cameroons, long article on, 820
- Bantu tribes, blood group tests of, 761; language of, 752, Doke, 757; working classification of, 812; see Languages
- Banyamwezi, ancestor worship among, 741; general work on, 741; see Nyamwezi, Wanyamwezi

- Banyankole tribe, monograph on, 811
 Baobab tree, short article on, 827
 Baoule tribe, ethnological studies of, 785
 Bapedi tribe, divination by tablets among, 781; history of, 777; phallus cult among, 833; sacred fire among, 760
 Bari tribe, initiation in, 819; long article on, 816
 Bark, canoes made from, 776; cloth, made by Baganda, 734
 Barotsi tribe, eight years among, 821; general description of, 739
 Barundi tribe, 797; ideas of God and other beliefs among, Zuuire, 835
 Basala tribe, history and customs of, 743
 Baskets, of Bisharin tribe, in Peabody Museum, 821; book on, 741; for fishing, 789
 Basoga-Batamba tribes, ethnography of, two important articles, 751
 Basonge tribe, monograph on, 802
 Basutoland, bibliography of, 838, 850
 Basuto tribe, beliefs concerning animals among, 740; calendar of, 815; general ethnology of, 748; two volumes concerning, 785; use of divination bones by, 787; see Suto
 Batauala tribe, book on, 794
 Batetela tribe, cultural differences in, important article, 825
 Bathonga tribe, important monograph, 2 vols. on, 781
 Bats, beliefs associated with, in Belgian Congo, 733
 Batwa tribe, and study of Congo groups, 755
 Ba Ushi tribe, and smelting of iron, 736
 Bavenda (Ba Wenda), ethnology of, 788; history and customs of, 768; history, religion, tribal ritual of, 829; monograph on, 820; religion of, 781
 Baya tribe, ethnographical study of, 806; general ethnological and linguistic information on, 751
 Bayaka tribe, ethnography of, brief article on, 825
 Bayansi tribe, 738
 Beads, called aggrey, from Gold Coast, 748; of glass in W. Africa, 808; made at Ilorin in Nigeria, 754; method of making, on Gold Coast, 832
 Bechuana (Bechwana) tribe, initiation in, article on, 832
 Bechuanaland, bibliogs. for, 838, 850; cattle magic and medicines among, 812; labor migration from native reserve in, 812; native reserves of, 812; plants of, 801; political crisis in, 736; rock engravings of, 832; and sorcery among natives, 812
 Bedouin Arabs, article, popular, 762; of Egypt, 799; laws and customs among, 782; physical anthropology of, in Egypt, 817; of Tunisia, 776
 Beer, social significance of, in Balobedu tribe, 784
 Bees, methods of keeping, monograph on, 816
 Beja tribe, 799
 Belgian Congo, Ababua tribe of, 770; articles and books on, Torday, 825; Baholoholo tribe in, monograph on, 814; Baluba tribe in, 751; Bangala, Basonge, Mangbetu, Mayombe, monographs on, 802; Bayansi tribe of, 738; bibliog. of, 792, 836, 860-861, Basiel and Door, 757; birds of, 749; Bland Kristallbergens Folk, 793; Bushongo, traditions of, 771; demography of, 811; dictionary of languages of, 739; drum signals used in, 776; early missionary enterprise in, Cavazzi, 748, Merolla, 797; early settlements in, Lopez, 790; elements of ethnography of, 792; ethnographical album, Leyden-Riks Museum collections, 794; ethnological notes from, small volume, Starr, 820; exploration of, W. Wolff, 833; five years in, H. Ward, 828; founding of the state of, 820; gazetteer of tribes in, Boone and Maes, 792; general description and ethnology of N. E. portion of, 739, 753; general ethnology of, with large bibliography, 828; Harvard expedition to, 821; history of Arabs in, 774; important books and articles on, Weeks, 829; journey from, to Niger and Nile, 796; Kasai tribes of, 773; languages, bibliog. of, Starr, 861; languages of, handbook of, 820; Loango region of, 804; Luba tribe of, 757; mythology of, 792; natural history expeditions to, 733; neolithic axes from, 807; periodicals AMCB, 728, BECB, 728, BIJD, 728, BSI, 729, Congo, 729, KO, 730; physical anthropology (general) in, 782, of Pygmies, 806; popular work, Vassal, 827; Pygmies of Ituri forests, Schebesta, 813; Pygmy tribes of, 768; report of Harvard expedition to, 771; Ruanda, ethnological and general, 803; Sanga River Pygmies in, 784, 808; secret societies of, 780; S.W., general ethnological notes on, 825; standard work on, Franck, 764; Stone Age in, 819; story of pioneering in, 739; study of

- Bantu tones in speech of, 777; study of skulls from, 739; weaving near Lake Leopold, 792; work of George Grenfell in, 779
- Bemba tribe, arts and handicrafts among, 807; see Babemba
- Benin, antiquities of, in Peabody Museum, 775; bibliogs. for, 853; celts as thunderbolts, 736; collection from, in Leiden Museum, 794; historical and ethnological, 811; wooden drum from, 770; works of art, catalogues and monographs, 791; see Art, Bronze, Ivory, Nigeria
- Berbers, of Algeria, general ethnology and magic, 773, 832; belief of, in evil eye, 738; French-Berber vocabulary, 756; and periodical Hespéris, 729; political life of, 798; religion of, 737; social studies of, 766; sociology of, 809; standard work on, Bertholon and Chantre, 739
- Bergdama tribe, important book on, 827
- Bezirks Molundu, people in Cameroons, long article on, 783
- Bibliographies, of Africa, period 1500-1750, Paulitschke, 803; general, all Africa, 840-866
- Biography, of Chaka, Zulu chief, 798; of De Foucauld, 781; of eminent Africans, 767; of Gordon, 733; of Mary Kingsley and Mungo Park, 769; of Mahomet, 778; of Stanley, 819; see Administration, History, and under personal names, as, Grenfell, Rhodes, etc.
- Biology, of central African lake systems, 834; see Botany, Game, Natural history
- Birds, of Africa, 3 vols. and Atlas, 808; of Belgian Congo, 749; of Egypt, 2 vols., 796; of Europe and N. Africa, 807; of Nyasaland, 738; of S. Africa, 820; of Southern Rhodesia, 806; of W. Africa, 736
- Birth, Bantu, first child important, 834; custom of couvade, 755, in Edo tribe, short article on, 824; see Childbirth, Children, Marriage, Twins
- Bisharin tribe, baskets of, in Peabody Museum, 821
- Blacksmith, see Iron
- Blood brotherhood, in Ankole, 832; in Azande tribe, 761; in Chagga tribe, 808; in Dahomey, 772; general study of, 774
- Blood feuds, among Berbers, 831; see Bedouin Arabs
- Blood groups, 766; and anthropology, 834; of Bantu Negroes, 805; classification of, 784; geographical distribution of, 754; inheritance and racial significance of, 818; of Pygmies, 778, 780; and race, 797, 834; tests for, by Bijlmer, 740, Elsdon-Dew, 761; Wellisch, 830; of W. Africa and totemism, 807; of western Asia and N. Africa, 803; see Nature, vol. 140, 1937, 927
- Blue Nile, exploration of sources of, 749; pottery manufactured near, 792; see Abyssinia
- Boats, see Canoes
- Bobo tribe, customs, manners, and religion of, 769; general work on, 752
- Bomvana tribe, ceremonial institutions and social organization of, 751
- Bondei, tribes of the region, general account of, 754
- Borku, see Tibesti
- Bornu, and across Sahara, Vischer, 828; bibliography for, 853; Punch and Judy show in, 733
- Bororo Fulani, articles, 743, 833; see Fulani
- Botany, 761; baobab tree, 827; grasses, nutritious, of E. Africa, 815; Karsten, 781; Laufer, 786, see Sino-Iranica; medicinal and poisonous plants of southern Africa, 829; and plant geography, 813; and plants of Bechuanaland, 801; plants useful to man, 809; terms in Hausa language, 754; vegetation, and soils, 817; of W. Africa, 777
- Böttgero (Vittorio), explorations by, 827
- Bows and arrows, African types of, Frobenius, 765, 790, and general study, 807; Bushman types of, 812; culture and spread of, 768; history of, and distribution in S. Africa, 792; types classified for all Africa, Leakey, 787
- Bozos, a tribe on the Niger, 764
- Brass, casting in W. Africa, 736; weights in Ashanti, 834
- Britain, British Museum, handbook to ethnographical collections in, 780, subject index of modern works, a bibliographical source, 840; periodical "Africa," 728; political policy of, in W. Africa, 735; possessions of, article on, 805, bibliographies on, 837-839, 845-853
- British Central Africa, 820; natives of, popular book on, 830; see Nyasaland
- British E. Africa, Akikuyu and Akamba tribes of, long article on, 822; see Kenya
- British Empire, races of, bibliographical sources, 837-839, 845-853

- British Somaliland, see Somaliland (British)
- Bronze casting, weights of Ashanti, 824; see Benin
- Bubi tribe, Fernando Po, 823
- Buduma tribe, brief article, 822; ethnology of, several important articles on, Landeroin, 786
- Buildings, types of, in western Sudan, Frobenius, 765; see Houses
- Bukoba, rock paintings at, 735
- Burial, methods of disposal of dead in Africa, 784; see Funerals
- Busa, ruler's regalia at, 772
- Bushmen, of Angola, 761; art of, compared with cave paintings in Spain, 743; bibliog. of, 849-850, see south Africa; books on, 803, 805; bows and arrows of, classified, 790; compared with Pygmies, comprehensive study of, Immenroth, 778; culture of, discussed, Hirschberg, 774; eruption of teeth among, 758; folklore of, 740; funeral customs of, 816; general studies of, 757; informative travel book of, 774; numerous articles relating to, 740; paintings of, 799, 825; physical anthropology of, 814; physical relation of, to Hottentots and Strandloopers, 758; platymery of, 805; pottery of, 785; relationship of, to Pygmies discussed, 774; religion of, 787; rock engravings of, Zelizko, 834; rock paintings of, in S. W. Africa, 801; Schapera's research, 812, 813; skin studies of, Weninger, 1936, 830; skull formation, study of, 784; of S. W. Africa, 752, 787; hair of, 764
- Bushongo tribe, popular account of, 825; traditions of, 771; see Torday, 825; AMCB, ser. 3, t. 2, fasc. 1, 1910, 1-286
- Byzantium, archaeology of, 754; and influence in N. Africa, 757
- Calabar, fattening of girls in, Efik tribe, 793
- Calendars, African types of, 768; of Basuto, 815; of Kikuyu tribe, 759; of Masai tribe, 774; of N. W. Africa, 775; and primitive time reckoning, 801; and the week in W. Africa, 824
- Camels, antiquity of, 810; branding of, in Kordofan, 792; historical study of, for N. Africa, 763; history of, in Egypt, 748; use and management of, 788; use of the *utfa* (camel litter), 810
- Cameron, explorations of, 763
- Cameroons, Adamaua, book on, 803; ancestor worship of Eyap tribe in, 793; anthropometry of, Mansfeld, 793; Baja tribe in, long article on, 771; Bakoko tribe in, book on, 801; Bana tribe in, ethnological study of, 770; Banjangi tribe, long article, 820; bibliog. of, 836; bibliogs. for, 854; disease and prevention in, 797; elephant hunting in Baia tribe of, 816; ethnological observations in, Labouret, 785; exploration in, 734; explorations of southern portion of, 752; general book on, Seidel, 815; general description of, 777, 794; Grassland area, tribes of, 793; highland region, general ethnology of, Thorbecke, 824; journey through, 797, 799; mandate of, 827; neolithic stone age in, 764; objects from, in Field Museum, 770; observation on, general notes, 805; people and speech of, 823; periodical TC, 731; plastic art in, 766; recent expedition to, 811; several monographs on, G. Tessmann, 823; study of Bezirks Molundu tribe in, 783; study of ninety-three skulls from, 784; tone in language spoken at Duala, 800; Wute tribe, monograph on, 817; Zintgraf's general treatment of northern area, 835
- Canary Islands, 736; ancient inhabitants of, large standard work on, 776; archaeology of, 751; bibliog. of, Schütze, 862; bibliogs. for, 865; conquest of, 739
- Cannibalism, general treatment of, P. Steinmetz, 820
- Canoes, of bark, 776; of E. Africa, 776; with outriggers, 769
- Cape Colony, bibliogs. for, 851; Pygmy stone implements from, 733; stone implements from, 764
- Cape Flats skulls, stone implements found with, 767
- Cape Verde Islands, bibliog. of, J. Schütze, 862
- Capsian stone culture, 827; see Archaeology of north Africa
- Carthage, archaeology of, 756, 769; bibliogs. of, by Pace and by St. Marie, 857; Ehrenberg, 760; excavations at, 782; topography of, 771
- Carthaginians, voyage of, round W. Africa, 803
- Catalogues, of books on Africa, issued by publishers, Edwards, 842, Kegan, Paul, 843, Luzac, 843
- Cattle, African breeds of, technical articles on, 753; culture, bibliog. by Herskovits, 846; customs relating to,

- among Ruanda, 756; and Fulani tribe, 743; and general survey of pastoral culture in E. and S. Africa, 773; herding rites of, in Bakxatla tribe, 812; magic and medicines for, in Bechuanaland, 812; in Nuer tribe, 752; raised by Nandi tribes, 777; see Baganda, Dinka, Masai, Ovahero, Ovimbundu, Shilluk, Suk, Vakwan-yama
- Caves, of Algeria, stone implements from, 734; archaeological studies in, W. J. Sollas, 819; cliff dwellers of Kenya, 794; near Knysna in S. Africa, exploration of, 782; modern dwellers of, near Mt. Elgon, 789, 799; paintings of, in W. Sudan, 835; of Pyrenees, wall paintings in, 748; of S. Africa explored, 787; of Spain, 809
- Celts, as thunderbolts, 736; see Axes, Neolithic Stone Age, Thunderbolts
- Census, and culture contacts in S. Africa, 809; in E. Africa, 796; of population in Nigeria, 735; returns in Nigeria, 804
- Cephalic indices, stability of, 804; see Anthropometry, Craniology, Physical anthropology, Skulls
- Ceramics, see Pottery
- Cerenaica, see Cyrenaica
- Chad (a French political unit, and a lake) bibliogs. for, 854; Buduma tribe near, brief article, 822; Buduma tribe, several important articles on, 786; expedition to, 750; exploration near, 759; linguistic situation near the lake, 791
- Chagga (Dschagga) tribe, book by Geiling, 766; ceremonial use of blood and spittle in, 808; near Kili-manjaro, 759, 797; laws and customs of, 797; long article, ethnology of, 812; thirty skulls measured, 831; various studies in, Gutmann, 769; see Kili-manjaro, Wachagga
- Chain mail, in Africa, 786; see Horses, Warfare
- Charms, worn by Nandi women, 777
- Chieftainship, 792; in Angoni tribe, 808; of Chaka, chief of Zulus, 798; under European rules, 822; in Igala tribe, Nigeria, 750; in Mayombe tribe, 755; insignia of, Plauen, 805; installation of Attah of Idah, Nigeria, 816; Meek, 1937, 796; in modern Africa, 793; in W. Sudan, Werder, 830; see Administration, Europeans, Social organization
- Childbirth customs, in Kanuri tribe, 761; see Birth, Children, Twins
- Childhood, first year of, among African Negroes, 828
- Children, international conference on, 818; in proverbs and folklore of Ashanti, 807; of Pygmies, physical characters of, 813; studies of, in French West Africa, 809; thoughts of, and animism, 795
- China, and ancient records of E. Africa, 774
- Christianity, in Africa, bibliography of literature, Rowling, 844; and African ceremonial, 834; and attitude toward slavery, 790; see Administration, Education, Missions, Village organization
- Cinematograph, influence of, in Africa, 739
- Circumcision, article by Andree, 734; article on, in encyclopaedia HERE, 768; in Bajok (Vachokwe) tribe, 775; among Ba-Khaka tribe of northern Transvaal, 781; a general monograph on, 779; general treatment of, Zaborowski, 834; of Masai, 735; rites in Belgian Congo, masks worn during, 792; rites, in S. Africa, 740; among Teda tribe of Tibesti, 787; of Vachokwe, 737; in Zoutpansberg district, in S. Africa, 831; see Clitoridectomy, Initiation
- Click language, 734; of Sandawe tribe, 756; in Tanganyika, 740; see Bushmen, Languages
- Climate, effects of, on human life, 777, 818, on language, 784; evolution of, 743; and nasal index, 824; and pluvial periods in Uganda, 829; textbook of African conditions, a large monograph, 783; see Rainfall
- Clitoridectomy, in Malinke tribe, 749; Zaborowski, 834; see Circumcision, Initiation, Seligman, C. G. and B. Z., 816, item 1918
- Clothing, African types of, 781; bibliography of, Monro, 841; geographical distribution of, different kinds of, Schurtz, 815; and ornament, in Atch-wabo tribe of Portuguese E. Africa, 814
- Coefficient, of racial likeness, 804; see Statistics
- Colonization, of Africa by Europeans, general monograph on, 779; and partitioning of Africa, 790; sufferings of native Africans under, Reade, 808; see Administration, Political areas
- Comoro Islands, bibliog. for, 854
- Congo, French, 751; kingdom of, historical notes on, 825; periodicals AMCB, 728; BECB, 728; River,

- exploration of, by Tuckey, 826; see Belgian Congo, French Equatorial Africa, Gaboon, Ituri
- Congo Free State, see Belgian Congo
- Counting, in N. W. Africa, 775; on the fingers, 824; systems of, in western Sudan, large treatise by Kluge, 783; by Yoruba, 756; see Calendar, Time reckoning
- Couvade, general book on, 755
- Craniology, of Hottentots, 805
- Cranium, deformation of, 757, skull from Siwa, 775; indices of, in many African tribes, Struck, 821; see Anthropometry, Physical anthropology, Skulls
- Crocodile, sacred, 806
- Crossbows, of French Equatorial Africa, 806; in W. Africa, 736
- Cross River, in Nigeria, economic study of village life of, 763; tribes of, general work on, 803
- Culture, adjustments of (acculturation), 773; areas, M. J. Herskovits, 773, De Prévile, 806; changes, ethnological study of, 784, in Indian tribes, 795; clash of, 805; *contacts*, of Asia and Africa, 774, see Egypt, and determination of policy, 828, effects of, on Pondo women, 777, of Europeans and natives of Kenya, 815, and field methods of study, 777, 813, and migrations, Dixon, 757, practical problems of, 793, R. C. Thurnwald, 1935, 824, in Tanganyika, 753, some principles of, 763, in south Africa, 813, and Western civilization in S. Africa, 813; a determinant of behavior, 793; differences of, in Batetela tribe, 825; early migrations of, 818; elements of, and their origins, 765; factors of invention and diffusion of, Harrison, 771; how to study patterns of, 738; influences of, on Africa, from Indonesia and Java, 784; migrations of, Roscoe, 1923c, 811; migrations of, in S. Africa, 754; patterns of, and geographic conditions, 805; and progress, 828; psychology of, 832; tenacity of original forms of, 771; see America, Arabia, Asia, India, Indonesia, Psychology
- Cunene region, S. Angola, ethnog. of, 755
- Cyrenaica, description of population of, 733
- Dagamba tribe, 763; brief history of, 822; dreams of, 748
- Dagbon kingdom, constitution, laws, 779
- Dahomey, 763; aspects of ethnology in, 773; bas-reliefs of, 829; bibliog. of, 836-837; bibliogs. for, 858; blood brotherhood in, 772; customs and funeral rites in, 783; descriptive notes of, 749; early voyage to, in 1820, 791; ethnology of, about 1874, 818; ethnology, a standard work by Le Hérisse, 787; general description of, 764, 772; general description of, in Dutch, 790; general expeditionary work in, Chevalier, 750; God, ideas of, 832; historical, 742, 754, 801; lake dwellings of, 765; linguistic study of, about 1879, 752; magical practices in, 739; marriage of two women in, 773; Negro art in, 808; ornamentation of gourds in, 768; political and commercial, 733; population statistics in, 773; Portuguese influence in, 812; a scientific mission to, in 1908, 776; souvenirs of campaign in, 813; statues of kings of, 755; a voyage to, 826; see Herskovits, 773
- Dancing, of Arabs and Suahili, 818; and social developments, 770; social significance of, 761; see Music
- Darfur, 803; Baggara tribes of, 786; bibliog. of, MacMichael, 846; ornamented gourds of, 821; recent exploration in, 772
- Death ceremonies, of Eyap tribe in Cameroons, 793
- Deformation, of lips, 799; of lips with stone plugs, 789
- Deformities, Stannus, 1914, 820
- Demography, of Belgian Congo, 811; of east Africa, 736, 796; of Nigeria, 735; and sex ratios in African tribes, 793; of Tanganyika Territory, 766; Uhden, 826
- Dictionary, of botanical terms in Hausa, 754; of Congo languages, 739; English-Nubian, 799; English-Portuguese, Mbundu (Kimbundu), 779; Fulani-English, 823; of Hausa language, 736, 810; of Mohammedanism, 776; Ovambo-German, 825; see Languages
- Didinga tribe, article on, 798; brief account of, 758
- Diet, problems of, series of articles on, 802; sociological study of, 763; of west Africa Negroes, 762; see Agriculture, Corn, Domestic animals, Fishing, Foods, Groundnuts, Maize, Meat, Milk, Millet, Wheat, Yams
- Dinka tribe, 753, 767; laws and customs of, 802; long article on, 825; many articles and books on, Seligman, 816

- Diseases, in Cameroons, 797; control of, in tropical Africa, 776
- Divination, of Bagba and Mossi tribes, 756; with bones among Basuto, 787; of Logbara tribe in N. Uganda, 807; notes on, in northern Transvaal, 809; by pebbles, 758; practiced by Bamasemola, 760; in Ruanda, 735; with tablets in Bapedi tribe, 781
- Djenné, archaeology and ethnology of, 798
- Dogs, sacrifice of, by Bantu, 757
- Domestic animals, 784; derivation of, from Asia, 774; goats and sheep of Akikuyu, 787; treatise on, 770
- Dorobo tribe, 792; hunters of Kenya, 777
- Drama, in Mandingo theatre, 785; marionettes used in, 786
- Dreams, of Akamba, 739; among Didinga and Lango tribes, 758; and mental conflicts, 809; psychology of, 764; recent monograph on, and methods of study of, 789; recorded among Dagomba and Moshi tribes, 748; studies of, in Tanganyika Territory, 772
- Drums, of Africa, general survey on, 806; all African forms, and their distribution outside Africa, important monograph on, Wieschhoff, 831; friction, distribution of, 736; language of, 807, in Ewe tribe, 833; note on, 816; ritual importance of, in Fika tribe, 809; for signalling in Belgian Congo, 776; of Sudan, 810; of Tumba tribe, 750; wooden, from Benin, 770; of Zulu, 783
- Dutch, crossed with Hottentots, 763, see Rehobother bastards; journals of, translated by Mossop, 799; periodical VRS, 732
- Dwarfs (legendary), in forests of Gold Coast, 762
- Earth, goddess, in W. Africa, 780; worship, 764
- Earth eaters, see Geophagy
- Earthquakes, African ideas on, 821; and geology of E. Africa, 832
- East Africa, anthropometric measurements from various tribes of, 780; Arabian and Persian influences in, 774; bibliogs. of, 845-848; cattle culture in, 773; distribution of population in, 735; earthquakes, plateaus, and rift valleys of, 832; educational and biological problems of, Huxley, 778; English laws affecting marriage in, 795; ethnology of Akamba, Kavirondo, Nandi in, Hobley, 774; ethnology of, various works, Roscoe, 810; French possessions in, bibliographies for, 854-855; general travel in, 764; geological studies of Rift Valley in, 768; handwork and industry in, 822; indirect rule and education in, 786; Indonesian influences on, 776; land of Zinj, 821; language perversions in, 808; laws of Bantu tribes in, 759; modern life of natives in, 781; native life in, 831; natural history of, 748; Nyika tribe of, 768; outrigger canoes of, 769; periodicals EA, 729, JEAU, 730, TNR, 731, UJ, 732; pre-Bantu in, 820; primitive law in, 758; rise of British Empire in, 791
- East African Protectorate, Bantu coast tribes of, 830; see East Africa, Kenya
- Economics, changes of, in south African native life, 812; competition and co-operation, 795; and goats and sheep of Akikuyu tribe, 787; and individualism in African society, 793; in Kenya, 819; in Liberia, 817; and native life in south Africa, 780, see Administration; and natives of south Africa employed in industry, 788; and natural resources of Africa, 796; and a primitive community, 824; and railway workers in Nigeria, 802; and social systems of Africa, 824; and soil erosion, 774; and wealth of Africa, 762
- Edo tribes, birth customs of, 824; of Nigeria, 4 vols., 824
- Education, and adjustments of Africans to European culture, 799; of Africans, 818; animism and thoughts of children, 795; anthropologists' approach to, 793; of Bemba youth, 807; in British Africa, 818; and childhood of S. African Kafirs, 782; of children, studies of, in French West Africa, 809; and children's games and songs in southern Sudan, 826; and experiments in Anglo-Egyptian Sudan, 753; and health of natives in Nigeria, 806; and indirect rule, 799; and indirect rule in east Africa, 786; in Liberia, 817; native conception of, 775; of natives in S. Africa, 805; and nutrition, 815; origins of, 770; and parental duties among urbanized Africans, 784; periodicals AO, 728, AW, 728, CAC, 729, EA, 729, HMSO, 729, JAS, 729, L'AF, 730, OE, 731, OM, 731, UE, 732; Phelps-Stokes reports on, 804; principles for African teaching, 780; and race relations, 791; and remaking of man in Africa, 802; of south African natives, 743, 751; and study of Negro achievement, Shepherd, 817; in Wanguru tribe of

- Tanganyika, 757; in west Africa, 785; in Yao tribe, 772
- Efik tribe, fattening of girls in, 793
- Egypt, ancient history of, 761; anthropology and anthropometric measurements in, 799; archaeology of, Caton-Thompson, 748; arts and crafts of, 804; Bedouin Arabs of, and their laws and customs, 782, 799; bibliogs. of, 845-846; birds of, 796; Cairo, anthropometric measurements in, 802; craniological studies in, 798; diffusion of culture in, 804; evolution of stone implements in, 781; excavations at Kerma, 809; Fellahin, general account of, 740; handbook of Arabic spoken in, 832; history of, 743; and history of Middle Ages, 786; Lepsius, notes on, 788; modern archaeological research, 1934, 812; modern physical types of, Fritsch, 764; and periodicals AE, 728, BIE, 728, JEA, 729, MIE, 730; physical anthropology of, 818, Chantre, 749; Ptolemaic dynasty of, 792; recent history of, Dolobran, 757; under Roman rule, 797; social life in, 804; and spread of culture to Ivory Coast, 755; stone age in, 804, 816; stone implements from, 765; stone implements of, earliest discoveries of, 805; X-ray studies of mummies from, 798
- Elephants, 795; book devoted to, 741; hunting of, native equipment for, in Baia tribe, 816; ritual during hunting, in Mindassa tribe, 762
- Elgon, stone age culture near, 799
- Embu tribe, source for pictures of, 736
- Emin Pasha, biographical and historical, 822; history of, 748; history of, substantial volume, 815
- Encyclopaedias, of Mohammedanism, 841; of religion and ethics, periodical HERE, 729, 841
- Ennedi, see Tilho, 824
- Entomology, research on, in Nigeria, 817; see Diseases
- Environment, and race, 823; in relation to race and sex, 794; see Botany, Climate, Culture areas, Natural history, Occupations, Rainfall
- Erdi, see Tibesti
- Eritrea, bibliogs. for, 864; physical anthropology of, 737; scientific mission to, 827
- Erosion, of soil, 774, effects of, 749
- Erythraean Sea, historical account of voyages in, Schoff, 814
- Ethiopia, see Abyssinia
- Ethnologischer Anzeiger, a bibliographical source, 840
- Ethnology, general textbook for Africa, 770; see Textbooks
- Europe, administration by, French and British in W. Africa compared, 735; climatic changes of, correlated with those in Africa, 743; and colonization of Africa, general monograph on, 779; and conquests of Africa, 791; contacts of, with Kipsigi, 802; and partitioning of Africa, 790; as seen by Africans, 789; see Administration, Politics
- Europeans, possessions of, bibliography of political areas, 836-839; settlement of, in Africa, J. C. Smuts, 1930b, 818; see Administration
- Evil eye, in N. Africa, 738; see Magic
- Evolution, Darwin, 754; of hand, head, and heart, Marett, 794; of tribal control, 801; see Biology
- Ewe tribe, book by Ellis, 760; drum language of, 833; language of, Westermann, 831, tone values in, 814; naming system of, 819; religion and general ethnology of, Spieth, 819; songs of, 833; textbook of language of, Bickford-Smith, a translation of Westermann's book, 740
- Exogamy, 764
- Exorcism, in Vandau tribe, 781; see Magic, Medicine-men
- Exploration, of Abyssinia, 789, 811; in Abyssinia about 1885, 748; in Abyssinia, near southern border, 795; in Abyssinia, travels of Lobo, 834; across Africa in 1881, 805; across Africa, Wissmann, 833; of Arabian travelers, 778; Astley's compendium of, 735; Barth's work on, 737; of Battell in Angola, 737; in Belgian Congo, 739; of central Africa and Uganda, Schoeller, 814; Clapperton's expedition, 786; compendium of, 781, by Pinkerton, 805; compendium of travels, by Churchill, 750; of Congo to Niger, 793; of Congo River, Tuckey, 826; of east Africa, 784; by Foa, 763; of French territory in central Africa, 787; Hakluyt's voyages, 770; Italian achievements in, 797; of Lakes Rudolf and Stefani, 775; of Landers brothers on Niger, 786; in Liberia, 828; of Libya about 1875, 809; of Libya, pioneers in, 782; of Livingstone, 828; among Masai, 738; of Mauch, Offe, 801; by Mecklenburg, 796; Mission Rohan-Chabot in Angola, 775; modern, of year 1936, in Angola, 779; from the Niger to

- the Nile, 733; in N. Africa about 1891, 791; of N. E. Belgian Congo, Schweinfurth, 815; and opening of Africa, 779; of Park on Niger, 824; periodical HS, 729, see Geography, and VRS, 732; and periplus of Erythrean Sea, 814; and pioneering in central Africa, 828; of river Niger, 734; Roncière, compendium by, 3 vols., 810; near Ruwenzori, 777; Ruwenzori to the Congo, 833; in Sahara, 742, 782; of Sahara, Italian enterprise in, Umberto, 827; of Sahara, Lenz, 788; for source of Nile, 819; of S. Africa, 749, 789; in inner S. Africa, 795; in S. Africa and Zambezia, 789; of H. M. Stanley, 820; of Tibesti and adjacent regions, 824
- Faiyum, archaeology in, 748; neolithic implements from, 765; see Egypt
- Falashas, of Abyssinia described, 821
- Family, and gerontocracy, 816; names studied, 811; organization of, in Mayombe tribe, 755; studies of, among Galoas of Gaboon, 768; studies of, in Pahouine tribe, 768; see Kinship
- Fan (Fang) tribe, ethnological notes on, 739; monograph on, 826; religion of, 733; totemism of, large volume on, 826
- Fanti, Boyle's travels among, 742; marriage customs of, 762; war organization among, 779; see Ashanti
- Father-right, distribution of, in Africa, 737; see Family, Kinship
- Fellahin, general account of, 740
- Fernando Po, 738; bibliogs. for, 865
- Fertility cults, of Nigeria, 822; of women, 739; see Birth, Phallus
- Fezzan region, archaeology of, 835
- Fighting, with iron wristlets, 796
- Figurines, of wood in Belgian Congo, 792; see Wood-carving
- Fika tribe, of Nigeria, drums, ritual importance of, 809
- Fire, sacred among Ba Pedi, 760
- Fishes, of Africa, standard work on, 742
- Fishing, aspects of, in a fishing community, 763; baskets and nets used for, 789; fish hooks for, types and distribution, 785; methods of, in Kavirondo Gulf and Lake Victoria, 757; of Senegal, 787; by use of poisons, 750; in W. Africa, 771
- Fjort tribe, general ethnology and folklore of, 756
- Flora, see Botany
- Florisbad skull, 758
- Flutes, of reeds in S. Africa, 783
- Folklore, of Angola, 749; Arabian examples of, 776; bibliog. of, N. W. Thomas, 823, 841; of Bushmen, 740; and children, 807; earthquakes explained by, 821; of Fjort tribe, 756; of Hausa tribe, 807; of Kafirs, 823; myths and legends of Bantu tribe, a volume, 830; periodicals FL, 729, JAF, 729; place of, in African life, 818; psychology of, 794; Rattray, 807; in Shilluk tribe, 831; of S. American Negroes, 773; of southern Nigeria, 755; specimens of Bantu, 826; of Swahili, 820; of Togoland, 748; of W. Africa, Dekameron, 765, 807
- Food, agriculture, improvement of, 770; and education, 815; gathering of, Rodenberg, 810; and nutrition of African natives, important articles, 834; rites, 794; see Bushmen, Diet, Domestic animals, Pygmies
- Forestry, west African, 827
- Fox, folklore stories of, 740
- France, colonial policy of, 799; colonies of, in W. Africa, Delafosse, Labouret, Monteil, Tauxier, 798, 804; education and politics, in periodical L'AF, 730; empire of, in Africa, 797; history of colonial policy of, 809; and mandates in Africa, 749; periodical "Aethiopica," 728; political policy of, in W. Africa, 735
- French Equatorial Africa, Baya and Kouyou tribes of, ethnography of, 806; bibliog. of, 837; bibliogs. for, 854; crossbows of, 806; exploration of, Dybowski, 759; see Administration, Exploration
- French Guinea, 734; bibliog. of, 837; bibliogs. for, 858; exploration of, in 1901, 802; Tenda tribe of, 755; travel and description of, 749
- French Niger Territory, Abadie, 733; bibliog. of, 837
- French possessions, bibliogs. for, 853-860
- French Somaliland, see Somaliland (French)
- French Sudan, bibliog. of, 837; Bobo tribe in, studies of, 769; book on tribes of, Sarrazin, 812; ethnological monographs on, Tauxier, 822, 823; industries of, 835; standard work on, Delafosse, 755
- French West Africa, children, studies of, 809; God, ideas of, 832; Toura tribe in, religion of, 823; tribes of, and their distribution, with map, 811

- Friction drums, types and distribution of, in Africa, 736
- Friendship, best friend among Didinga, 758
- Fulani (Bororo), article on, 833; dictionary, 823; of Djafun-Bororo, Ngaundere, 804; general notes on, 742; is the language Hamitic? 758; see notes on customs of, 808; see Bororo, Fulbe, Peuls, Shuwalbe
- Fulbe, 743; history of, 803; see Fulani
- Functionalism, and social anthropology, 788
- Funeral customs, of Bushmen, Hottentots, and Pygmies, 816; of Goun tribe in Dahomey, 783; in Nkundo tribe, 776
- Fung tribe, kingship in, 810
- Gã people, religion and medicine of, 762
- Gaboon, and explorations of Du Chaillu, 759; family studies among Galoase in, 768; primitive arts disappearing from, 768; secret society of, 772; study of skulls from, 739
- Galla tribe, book on, 811; ethnology of, 749, 803; two articles on, 830; see Abyssinia
- Galoa tribe, Gaboon, studies of family among, 768
- Gambia, bibliog. of, 838; bibliogs. for, 853; stone circles of, 795, 803, 825
- Game, and life histories of animals, 810; in relation to mankind, 774; stalking with a camera, 795; in W. Africa, 772
- Games, of Arabs, 754; of children in southern Sudan, 826; mancala, board from Mombasa, 817; with string figures, general, 753, 789, in Liberia, Sierra Leone, and Zanzibar, 776, among the Yoruba tribe, 803; see Mancala, String figures
- Gbanda tribe, Liberia, social structure of town of, 759
- Genetics, 766; study of heredity in man, 777
- Geography, bibliographie géographique internationale, 840; compendium of, 781; and cultural patterns, 805; environment, and human life, 816; and human development in S. Africa, 754; and human life, 740; and human life in Northern Rhodesia, 776; of northern Nigeria, 762; periodicals BSGA, 729, BSGI, in Italian, 728, BSNG, 729, GJ, 729, Globus, 729, GR, 729, GSNI, 729, HS, 729, LG, 730, NGM, 731, PM, 731; and social sciences, 742; and soil erosion, 774; a standard textbook for Africa, Fitzgerald, 763; a standard textbook by L. Brooks, 743; of Swaziland, 758
- Geology, earth before history, 804; earthquakes, plateaus, and rift valleys of E. Africa, 832; the face of the earth, general treatise, 4 vols., 818, 822; manual of, 772; of northern Nigeria, 762; and origin of continents and oceans, 829, standard work on, 784; studies of, in Rift Valley, 768; textbook of, Schuchert and Dunbar, 814
- Geophagy, 786
- Germany, colonies of, in 1896, 796; colonies of, Meyer, 797; periodicals AFA, 728, AFK, 728, AFR, 728, KO, 730, MBS, 730, REVA, 731, TC, 731; possessions (former) of, bibliography for, 866; see Cameroons, S. W. Africa, Tanganyika Territory, Togoland
- Gerontocracy, and kinship organization, 816
- Giraffe, in history and art, 786
- Girama tribe, customs and beliefs of, useful article, 736
- God, beliefs in, by Bakwiri tribe, 778; Africa surveyed, 832; in Barundi tribe, long article, 835; among Hamites and Negroes, Wiedemann, 831; names for, 777; among Zulus, 828; see Religion
- Gogo tribe, general ethnology of, two important articles, 750, 751
- Golah tribe, of Liberia, initiation rites in, 749
- Gold, brass weights for measuring, 834
- Gold Coast, aggrey beads from, 748; *asamanukpai*, dwarfs of the forests, 762; beads, method of making of, 832; bibliogs. of, 748, 836, 852; general description of, about 1840, 738; general notes on, 735; historical, 791, 808, 829; ideas of God on, 832; medicine and religion on, 762; native institutions of, 752; native tribes of, 748; people of, 760; periodical GCR, 729; short article on, 771, 824; stone age pottery from, 832; stone armlets from, 748; totemism on, 771; tribal marks of, 735; see Ashanti
- Golden stool, Rattray, 807; E. W. Smith, 818
- Gordon (General), military career of, in Sudan, 733
- Goun tribe, of Dahomey, customs and funeral rites of, 783
- Goura, a stringed instrument, distribution of, 736; technical study of, 783

- Italian Somaliland, bibliogs. for, 865
- Italy, colonization of, in Africa, large bibliog. of, 827; and conquest of Abyssinia, 733; and expansion in Africa, 742; periodicals AAE, 728, BSGI, 729, L'AI, 730; political difficulties of, in Abyssinia, 742; possessions of, bibliogs. for, 862-865; and problems of colonization, 756; voyages of Italians in Africa, 797
- Ituri forest, 769; Pygmies of, 806, 813; see Belgian Congo, Pygmies
- Ivory, in Belgian Congo, H. Lang, 786; in China, 786; collection and transport of, by slaves, 798
- Ivory Coast, Agni tribe of, monograph on, 823; Baoule tribe of, ethnological study of, 785; bibliog. of, 837, 859; ethnological, and general, 780; exploration of, in 1901, 802; general description of customs on, 751; languages, bibliog. of, Delafosse, 859; possibility of Pygmies in forests of, 778; traces of Egyptian traits on, 755; wood-carving from, 774
- Jamaica, crossing of Negroes and Whites in, 820; race crossing in, 754
- Jewelry, made in northern Nigeria, 815
- Jews, Hebrewisms of W. Africa, 832; history of, 777; history of, in S. Africa, 772
- Johannesburg, study of life in slum yard of, 772
- Joking relationship, Labouret, 1929, 785
- Jukun tribe, large monograph on, 796
- Kababish tribe, important article on, 816
- Kabyles, 782; archaeological and anthropological studies among, 789; customs of, 771; Hilton-Simpson, studies by, 773; houses and villages of, 795; pigmentation of eyes, hair and skin, 782; pottery of, 800; see Algeria, Berbers
- Kaffa tribe, of Abyssinia, 740
- Kafirs, folklore of, 823; of Natal, 795; in S. Africa, magic and prophecy among, 799; studies of, Kidd, 782
- Kagoro tribe, Nigeria, long article on, 826
- Kalahari Desert, hunting lions in, ritual of, 812; Schultze, 814; see Bushmen
- Kanam, human fossils from, 742
- Kanjera, human fossils from, 742
- Kanuri tribe, marriage and childbirth customs of, 761
- Kapando tribe, 743
- Kasai River, general account of tribes in region of, 773, 825
- Katanga, Luba tribe of, 757; tribes near, Verhulpen, 827
- Kavirondo Gulf, fishing methods near, 757
- Kavirondo tribe, 774; article on, 801; ethnological notes on, long article, 789; Nilotic, 771; religion of, 819; of Uganda, 734
- Kenya, anthropometric study of skulls from, 783; articles on Kipsigis, Suk, and Turkana, 737; Azanian civilization of, 777; bibliog. of, 837, 846; book on, 788; cliff dwellers of, 794; Dorobo hunters of, 777; European settlement and native development in, 815; human fossil skeletons of, 741; Kavirondo and Nandi tribes of, 774; Kipsigi tribe of, ethnological notes on, 802; land policy and economic development in, 819; Masai tribe of, notes on, 764, 787; source for pictures of, of Embu, Masai, Suk, Turkana, 736; stone implements in, from cave shelters of Mt. Elgon, 799; tribes of Mombasa district of, 779; Wawanga and adjacent tribes of, 759; see Akamba, Akikuyu, Archaeology, British East Africa, Masai, Nandi, Suk, Turkana
- Kharga, archaeological expedition to, 765; oasis of, archaeological research in, 748
- Khassonké tribe, monograph on, 798
- Khoisan people, Bushmen and Hottentots, Schapera, 812
- Kilimanjaro, general ethnology of, Volkens, 828; population near, 831; study of tribes near, 766; tribes near, 759; see Chagga tribe
- Kingship, broad study of, 774; and divinity, 738, 750, 779, 816; of Fung tribe, Sennar, 810
- Kingsley (Mary), biography of, 769; reminiscences of, 800
- Kinship, classificatory system of, 784; and cross-cousin marriage, 816; interpretations of, 790; of Masai, Nandi, and Tonga tribes, 816; meaning of terms, 733; principles of study, by Eggan, 760; Semitic type of, 816; studies of, 761; systems, broad study of, 774, in early Arabia, 818, B. Z. Seligman, 816; a terminology of, 783; terms of S. African Bantu, 829; of Vandau tribe, 741; of Wahenge and Wangonde tribes of Nyasaland, 812
- Kipsigi (Lumbwa), 737; and European contacts, 802; religion of, 802

- Kissi tribe, iron-working in, 759; in Liberia, long article on, Neel, 800
- Kitui Akamba, general article on, 740; see Akamba
- Kivu region, Pygmy tribes of, 815
- Knives, for throwing, article by Robinson, 810; of Darfur, 802; Schurtz, article by, 815
- Knysna, cave exploration near, 782
- Konde tribe, religion and magic of, 791
- Kono tribe, of Sierra Leone, clans and names of, 786
- Koran, translation of, 810; see Arabs, Mohammedanism, Semites
- Kordofan, Baggara and Nuba tribes of, brief notes on, 834; bibliog. of, MacMichael, 846; Kababish in, important article on, 816; Nuba tribe of, physical anthropology of, 815; Paulitschke's notes, 803; physical types and language groups of, 821; rock paintings in, 792; rock pictures of, 810; a student's journey in, 796; tribes of northern and central regions of, 792
- Kouyou tribe, ethnographical study of, 806
- Kpelle tribe, in Liberia, important volume, 831
- Kru tribe, social administration of, 796; two brief articles, 740; see Liberia
- Kufra, exploration by Rohlfs, 809; oasis of, explored, 772; Tebu tribe of, 811
- Kulturkreise, articles on, 734, 737, 768; Frobenius, 765; method and theory of, 783
- Kumasi, 742; article on, 795; campaign of, 820; military expedition to, 740
- Kwango river, tribes near, ethnology of, 825
- Kwilu river, Bayansi tribe near, 738; see Kasai
- Labor, division of, and agriculture, 737; of Negroes in modern industry, 754; problems of, in Africa, 739; recruiting of, in Portuguese East Africa, 817
- Lado Enclave, 821
- Lake, regions, of East Africa, general information on, 767; system, of east Africa, geology and biology of, 834; village built on, C. R. Hall, 770; see Tanganyika, Victoria Nyanza
- Lamba tribe, of Northern Rhodesia, 757
- Land, ownership of, in east Africa, 793; policy in Kenya, 819; tenure of, by Baganda, 793; see Administration, Law
- Lango tribe, of Uganda, 758
- Languages, African literature on, 760; Afrikaans, 769; alphabets and telegraph system, 826; Amharic, a detailed and standard article on, 743; Arabic, handbook of spoken Egyptian, 832; Bantu, bibliog. on, up to 1906, Struck, 846; and Bantu grammar, 796; Bantu, series of articles on, 752; bibliog., Cust, 842; bibliog. of, for southern Sudan, 821; bibliog., Tissot, 844; bibliogs. for northern Nigeria, of Fulani, Hausa, and Yoruba, Struck, 853; catalogue on, in library of African Society, 821; clicks in, 734; comparative study of Bantu and semi-Bantu, 779; of Congo, bibliog. of, Starr, 861; and drum signals in W. Africa, 807; early grammar of Bantu, 740; Efik, phonetic and tone structure of, 829; and emotional expression, 772; English contributions to study of, 830; English-Portuguese dictionary of Mbundu (Kimbundu), 779; Ewe, 814, grammar of, 831, textbook of, 740; families of Africa, 830; French-Berber vocabulary of, 756; Fulani-English dictionary, 823; Fulani-Hausa readings in native script, 823; general divisions of, in Africa, 758; general textbook of, Sapir, 812; general treatise on, Cust, 753; Hamitic, 743; Hamitic, foundation of, Zyhlarz, 835; Hamitic, what are the characteristics of? 828; handbook, Congo languages, 820; Hausa dictionary, 810; Hausa grammar, 823; of Ibo tribe of Nigeria, 768; of Kordofan, 821; near Lake Chad, 791; Libyan, transcription of, 796; linguistic grouping, for whole of Africa, Hestermann, 773; list of grammars and dictionaries of African languages, at New York Public Library, 844; Mandingo, 755, 785; of Masarwa Bushmen, 757; Meinhof, several major works, 796; methods of study of, 741; of Mozambique, 802; of Nigeria, Efik and Ibo tribes, 829; Nilotic, 799; and orthography of Bantu, 796; in Ovambo and Vakwanyama tribes, 825; periodicals "Aethiopica," 728, AJSL, 728, BELA, 728, BL'ELO, 728; BSOS, 729, MSFO, 730, RTS, 731, ZFAO, 732; perversions of, in E. Africa, 808; practical suggestions for learning a language in the field, 829; preliminary investigation of, in S. Africa, 757; present situation of, in southern Sudan, 826; problems of Bantu, 830; in relation to climate, 784; secret forms of, in Yolof (Wolof) tribe, 787;

- Semitic, history of, 809; of Shilluk, 831; Shona, phonetics used in, 757; of Siwa, 737; of S. Africa, 736; structure and relationship of, 830; study of, based on Bantu, 783; study of in relation to prehistory and ethnology of south Africa, 792; Sudanic types of, long important article on, 824; Swahili, 820, elementary grammar book, 830; Tamachek, 771; tones of, in Bantu, 800, in Lonkundo speech, 777; of W. Africa, general account of, 797; of western Sudan, and relation to Bantu, 831; whistling, 785; and Zulu grammar, 757
- Law**, African conception of, 758; of Akan, 754; of Ashanti, 807; of Bantu tribe of E. Africa, 759; among Bedouins and Egyptians, 782; in Chagga tribe, 769, 797; codification of, in German colonies, 796; crime and custom in relation to, 793; and customs of Dinka tribe, 802; of Dagbon Kingdom, 779; in Didinga tribe, 758; in E. Africa, 734; general treatise on, S. R. Steinmetz, 820; in Ibo tribe, 796; and land ownership in E. Africa, 793; for Negroes in Natal, 819; for Negroes in W. Africa, 762; of Nyakyusa tribe, introduction to, 833; penal code of Masai, 792; periodicals DE, 729, REVA, 731, ZEVR, 732; primitive forms of, 756; primitive, nature of sanctions in, 794; primitive law, 2 vols., Schultz-Ewerth and Adam, 1930, 814; of S. African Kafirs, 791; of S. African natives, 831; of Schambala tribe, in Tanganyika Territory, article on, 833; and study of primitive legal institutions, 775; and theories of Malinowski, Seagle, 815; of Yoruba, 733
- League of Nations**, and Liberia, 791
- Leather**, methods of working with, Van Gennep, 766; Zulu methods of preparing, 827
- Leopard**, and secret societies, 738, 742; society, 807; see Leopard priestess
- Leprosy**, and cultural developments, 775
- Liberia**, bibliog. of, 837, 866; black republic, 817; economic and general, 834; education and economics, 817; ethnology, natural history, general, 2 vols., 779; Harvard expedition to, 821; history of, 781; Jabo proverbs from, 773; journey in the hinterland, 828; Kissi and Toma tribes in, ethnology of, 800; Kpelle tribe, monograph on, 831; Kru tribe, administration of, 796; and League of Nations, 791; marriage customs in, 810; pawning of human beings in, 750; political, 735; political problems of, 759; proverbs of Gweabo tribe in, 812; report of Harvard expedition to, 771; social structure of Gbande, a town in, 759; string figures from, 776; travel book of, 786; tribal studies in northern area of, 766; Vai script of, 783, 794
- Libraries**, and bibliographical sources, 840
- Libya**, ancient history of, 737; ancient inscriptions of, 796; bibliogs. for, 864; desert of, some problems of, 736; exploration of, 800, Umberto, 827; general notes on, 807; historical problems of, 739; mysteries of the desert of, 782; oases explored in, 772; pioneer exploration in, 782; problems of Italian colonization in, 756; recent exploration in, 735; rock paintings of Owenat in, 799; rock pictures in, 800; study of the Sand Sea in, 781; see Italy, Kharga, Siwa
- Linguistic changes**, in E. Africa, 808; in northern Nigeria, 760
- Lions**, hunted in Kalahari, ritual of, 812; see Natural history
- Lips**, ornamented with stone plugs, 789
- Livingstone (David)**, explorations of, 828
- Loango region**, in Belgian Congo, 804
- Lobi tribe**, 788; general ethnology of, 749; of W. Africa, 785
- Lobo**, travels of, in Abyssinia, 834
- Locusts**, brief article on, 779
- London libraries**, bibliog. of social sciences, 840
- Looms**, standard work and long article on, 811; see Weaving
- Lotuko tribe**, ethnological study of, article on, 819; social organization of, 816
- Luba tribe**, 757
- Lugbwara tribe**, secret society of, 758
- Lugwari tribe**, in central Africa, 795
- Lumbwa (Kipsiki) tribe**, 737
- Lyautey (General)**, and administration of Morocco, 815; see French colonization, Morocco
- Madagascar**, bibliogs. for, 855; stone monuments in, 788; Tanala tribe of, monograph on ethnology of, 789
- Madeira**, bibliog. of, Schütze, 862
- Magdala**, campaign of, 820
- Magic**, Algerian, and amulets of Spain, 773; of Azande tribe, 761; Bantu beliefs in, 774; charms worn by Nandi

- women, 777; costumes of medicine-men in W. Africa, 790; in Dahomey, 739; divination of Logbara tribe in N. Uganda, 807; and elephant hunting, 762; Evans-Pritchard, principles discussed, 761; Hausa, ban of Bori, 826; of Konde tribe, 791; and medicines for cattle in Bechuanaland, 812; and Moorish designs, 831; in relation to witchcraft in E. Africa, 774; and religion, 786; of Shilluk tribe, 752; taboos, as a form of, 794; and witchcraft in Northern Rhodesia, 796; see Amulets, Ancestor worship, Divination, Medicine-men, Religion
- Magosian culture, of Uganda, 829
- Mahenge district, in Tanganyika Territory, notes on Wahehe tribe, 774
- Makonde tribe, notes on, 751
- Malinke tribe, circumcision rites in, 749
- Mancala*, a board from Mombasa, 817; general description of African forms of the game, 752; in the New World, 773; in Uganda, 743
- Mandates, of British E. Africa, Lugard, 791; of Cameroons, 827; and French territory in Africa, 749; principles of, Maanen-Helmer, 791; see S. W. Africa, Tanganyika, Togoland
- Mandingo tribe, language of, 785, standard work on, 755; Monteil, 798
- Mangbetu, material culture of, 737; monograph on, 802
- Mantis, sacred nature of, 740
- Map, of African arts, customs, handicrafts, Frobenius, 765; of all African tribes, 810, Torday, 1931, 825; of Cameroon tribes, Tessmann, 1928, 823; clothing, types of and distribution, Schurtz, 815; Congo tribes, AMCB, ser. 3, t. 2, fasc. 1, 1910, economic, Bartholomew, 737; of Mauretania, Segaud, 1934, 815; showing distribution of population in Tanganyika Territory, 766; of Tanganyika, showing tribes, 779
- Marimba*, a musical instrument, 777
- Marionettes, origin, distribution of, 786
- Ma-Rotsé, general account of tribe, 738; see Barotsi
- Marriage, and adultery in Africa, 827; of Babudja tribe in Southern Rhodesia, 832; Bantu, and birth of first child, 834; and bride-wealth of Ubena in Tanganyika, 753; changing conditions of, among urbanized Africans, 784; of cross-cousins, 816; customs of, in Natal, 783; customs of Vandau tribe in Portuguese E. Africa, 773; customs of Zulu tribes, 742; in early Arabia, 818; in E. Africa, and English laws affecting, 795; by exchange in Nigeria, 796; in Eyap tribe in Cameroons, 793; in Kanuri tribe, 761; and kinship system, 733; Liberian customs of, 810; matrilineal type of, in Rhodesia, 812; and other sex customs of the Baila, 743; preferential forms of, 830; principles of Bantu ceremonies in, 825; in Ruanda, 814; state of, 758; study of changes in rites of, in Tanganyika, 753; of two women in Dahomey, 773; in Wabende tribe, 793; see Cross-cousins, Kinship
- Marsa Matrüh, archaeology of, 737; see Egypt
- Masai tribe, calendar of, 774; circumcision in, 735; early explorations among, 738; kinship system of, 816; monographs on, 775, 797; notes on, 764, 787; penal code of, 792; shields and spears of, 821; source for pictures of, 736
- Masailand, journey through, 824
- Masarwa (Bushmen) tribe, 757
- Mashona tribe, names and naming customs in, 832
- Mashonaland, archaeology of, 739
- Masks, in Belgian Congo, 792; in Sierra Leone, 760; types of, used by secret societies, 765; see Initiation, Magic
- Matabele tribe, initiation rites among, 780
- Mauretania, bibliogs. for, 855; good map of, Segaud, 815
- Mauritius, bibliogs. for, 848
- Mayombe tribe, monograph on, 802; studies of, in chieftainship, family, religion, and social organization, De Cleene, 755; works by Bittremieux on, 740
- Mazigh people, of south Tunisia, book on, 822
- Mbum, Lakka, Mbaka-Limba tribes, Cameroons, important article on, with tribal map, 823
- Medicine-men, of Angola, outfits used by, 758; in Anjanja tribe, 774; of Azande tribe, 768; bibliog. of, Maddox, 841; costumes of, in W. Africa, 790; of Gã people of Gold Coast, 762; initiation of, in Wa Barwe tribe, 817; of Nyasaland (northern), 834; see Magic, Masks, Sorcery, Witchcraft
- Mediterranean race, 816
- Megalithic monuments, builders of, 804; see Menhirs, Stone circles, Stone monuments

- Mende tribe, polygamy in, 752; psychology and political life of, 775; writing of, 822
- Menhirs, of Madagascar, 788; see Stone monuments
- Messages, sent by symbols, 741, 767; see Drums, Signalling
- Metallurgy, of brass, bronze, and iron, Cline, 751, gives large bibliog.
- Metals, in Africa, bibliog., Cline, 842; of Africa described, Partington, 803; historical consideration of, 768; see Brass, Bronze, Iron, Silver
- Methodology, the flexibility of, in ethnology, 770; functionalism and social anthropology, 788; see A. R. Brown, 744, Eggan, 760, Mead, 795, Westermarck, 831
- Metropolitan Museum of Art, Mohammedans, decorative arts of, 757; musical instruments in, 744, 797
- Migrations, of Babali, 742; of culture, 734; human, Haddon, 769; human, zones of, and their significance, several important articles, 823; of labor in Bechuanaland, 812; of Negroes in relation to their intelligence, 783; see Culture, Diffusion, Miscegenation
- Military organization, of Fanti tribe, 779; of Nandi tribe, 777; in Swaziland, 738; see Masai, Warfare, Zulus
- Mindassa tribe, ritual during elephant hunting in, 762
- Minerals, of south Africa, 759
- Minianka tribe, material culture of, 749
- Miscegenation, of American Negroes, 773; on Gold Coast, 797; of Negroes and Whites in Jamaica, 820; in N. Africa, Maunier, 795; in northern Nyasaland, 834; of people in S. Africa, 762, see Physical anthropology; of Pygmies and Negroes, 813; Rehobother bastards, 763; researches at Harvard University, 776; see Physical anthropology
- Miscellaneous bibliographies (including Africa), 840-841
- Missionaries, of Belgian Congo, Merolla, 797; concerned with sociology and psychology, 824; Livingstone, 789; Moffat, 798; see Administration, Christianity, Education
- Missions, in Angola, J. T. Tucker, 826; to Ardra, 785; bibliogs. of, Dubois, 842, Jackson, 841, Smith, 844; Christianity in Africa, 831; educational work and modern enterprise, Oldham, 802; periodicals CO, 729, IRM, 729, MW, 730, NAM, 730
- Moeris, problems of the lake, 748; see Egypt, archaeology of, and Faiyum
- Mohammedanism, 734; brief textbook of, 794; and decorative arts, well illustrated guide to collections in Met. Mus. of Art, N. Y., 757; dictionary of, 776; encyclopaedia of, 841; in Eritrea and Abyssinia, bibliog. for, Iwarson, 864; introduction to sociology of, monograph on, 2 vols., 788; Koran, translation of, 810; life of Mohammed, 778; pagan survivals in, 831; periodicals AI, 728, Hesperis, 729, IRMI, 729, MW, 730, REI, 731; in Spain, 758, 821; in western and central Sudan, 789; see Arabs, Religion, Semites
- Mombasa, tribes of hinterland of, 779
- Money, copper rods as currency, 769; iron disc currency from Ashanti, 832
- Mongalla province, present-day tribal survey of, 800
- Moon, see Calendars, Time reckoning
- Moorish designs, and magical significance of, 831
- Morality, African and Christian ethics compared, 777; African forms of, 833; foundations of, 793; and mental and moral capabilities of natives of E. Transvaal, 833; see Adultery, Ancestor worship, Law, Marriage, Missions, Religion
- Morocco, bibliogs. for, 856-857, 866; blood feud in, 831; early exploration of, Foucauld, 763; ethnological studies in, 784; ethnology of, 742; ethnology of Moors in, excellent monograph, 796; and General Lyautey, 815; and invasion of W. Sudan, 742; natural history, periodicals BSSN, 729, MSSM, 730; old stone age in, 817; pacification of, 817; periodical Hesperis, 729; ritual and belief in, 831; standard work of, physical anthropology, Coon, 751; tattooing of feet in, 772; wit and wisdom (folklore and proverbs in), 831; see Westermarck's numerous works, 831
- Moshi tribe, dreams of, 748
- Mossel Bay, in S. Africa, archaeology of, 767
- Mossi tribe, divination among, 756; ethnology of, articles on, 793; monograph on, 794
- Mother-right, distribution of, in Africa, 737; essay on, 809; see Kinship, Marriage
- Mozambique, anthropometry of native tribes of, 789; bibliogs. for, 862; races and languages of, 802
- Muhaya tribe, 749

- Mummy, sex of, studied, 829
- Munshi (Tiv, tribe of Nigeria), anthropometry of, 793; ethnology of, brief monograph, 758
- Music, 760; African influence of, in North America, 753; African, large bibliog. 827; African melodies, 801; of Arabs, important article, 832; bibliog. of bibliogs. on, Varley, 844; ethnological study of, 799; general characters of Negro, 776; of India, 765, 806; influences from Indonesia and Java, 784; of Negroes, 749; of Negroes in Tanganyika, 798; recording of primitive forms of, in Africa, 773; of Siwa oasis, 813; and speech-melody, 773; talent of Negroes of E. Africa, 801; see Dances, Songs
- Musical bow, 736
- Musical instruments, catalogue of, 734; description of, 776; Kirby, books and articles by, 783; marimba and *sansa*, 777; tuning of, 826
- Mutilations, finger joints lopped off, 785; see Cranium, deformation of, Law, Lips and stone plugs, Scarification, Tattooing
- Mweru, industry and trade on shores of Lake, 798
- Mythology, of Belgian Congo, 792; creation myths, 737; Ehrenreich's theories of, 760; Lang's theories of, 786; and psychology, Rank, 807; of various races, 850; see Folklore, and Marett, 1920, 794
- Naivasha Masai, circumcision of, 735
- Nama Hottentots, social organization of, 775; Vedder's general description, 827
- Names, among Ewe Negroes, 819; of individuals in families, 811; and naming customs of Mashona tribe, 832
- Nandi tribe, 774; cattle raising by, 777; charms worn by women in, 777; kinship system of, 816; military organization of, 777; monograph on, 775
- Naron, article on, 740
- Nassawara Province, in Nigeria, Nungu tribe of, 795
- Natal, archaeology of Cathkin Peak in, 830; bibliog. of, 838; bibliogs. of, 851; law for Negroes in, 819; marriage customs of, 783; physical anthropology and physiology of natives in, 822; stone implements from, 811; Zulu tribes of, 795
- Natural history, comprehensive treatise on, 771; of E. Africa, 748; and ethnology of middle Sudan, 806; of life histories of African game animals, 810; Musée Congo Belge, Reports, 814; periodicals BMNH, 728, BSSN, 729, JEAU, 730, MSSN, 730; of reptiles and amphibians, 790; Scharrer, 813
- Navigation, see Canoes
- Negrillos and Negritos, 769
- Neolithic axes of N. E. Congo, 807
- Neolithic stone age, in Cameroons, 764; see Archaeology
- Nets, for fishing, 789
- Ngami, explorations of Lake, 734
- Niam-Niam tribe, book concerning, 785; see Azande
- Niger, 758; bibliogs. for, 859; Colony of, history of population in, 827; exploration of, 734; exploration of, by Park, 769, 824; French colony of, 733; French territory, bibliog. of, 837; Lander's expedition to, 786; study of Bozo tribe on, 764; and tribes of lower river, 788; voyage to, 826
- Nigeria, administration of, 804; animism and divinities of Ibo tribe in, 752; anthropometry of Hausa in, 826; bead workers of Ilorin in, 754; bibliog. of, 837; bibliogs. for, 853; British policy in, 791; census of population in, 735; census returns of, 804; Cross river natives of, 803; culture areas of, 771; drums of, in Fika tribe, 809; early account of, about 1860, 751; education and health in, 806; Ekoi tribe of, Talbot, 1912, 822; entomology in, 817; evolution of Ibadan in, 760; fertility cults of, 822; folklore of, 755; general account of, 797; general description of, about 1905, 791; general ethnological studies of, 756; general study of plateau region in, 756; God, ideas of, 832; historical and political, 750; Ibo-speaking peoples of, 824; Ibo tribe in, Osu system of, 787; installation of Attah of Idah in, 816; Kagoro head-hunters of, 826; linguistic changes in, 760; linguistic studies of, among Ibo, 768; linguistic tour, Ibo language, tonal structure of, 829; Meek, 796; native jewelry made in, 815; northern tribes of, 796; Nungu tribe of, 795; Nupe tribe of, 800; people and problems of, 799; periodicals NF, 731, NPN, 731; potters of Sokoto in, 801; railway workers in, 802; regalia of, at Busa, 772; secret society of Ogboni in, 756; several important works by Talbot, 822; soul trapping in, 793; stone implements of, 736, 743; string

- figures made in, 770; *tandu* industry of, 736; thunder stones from, 759; Tiv (Munshi) tribe of, 758; totemism in, 752; travels in a motor truck in, 770; tribal marks in, 826; and tribes of lower Niger, 788; the "Voice of Africa," Frobenius, 765; Yoruba string figures in, 803
- Nile, description of, Ludwig, 790; discovery of source of, 819; exploration of source of, 736; general ethnology of upper region, 753
- Nilotic Negroes, Bari, Dinka, Shilluk, and others, large general monograph, C. G. and B. Z. Seligman, 816; pictorial and popular account of, 739; C. G. Seligman on, 816
- Nkundo tribe, funeral customs of, 776
- Nomadism, in Morocco, Nouvel, 857; in N. Africa, 766; in Tunisia, 776; see Bedouin Arabs, Gypsies
- Nomori*, figures, from W. Africa, 780; stone figures from Sierra Leone, 733
- North Africa, archaeology of Fezzan region in, 835; arts and industries of, 809; birds of, 807; French possessions in, bibliogs. for, 855; physical anthropology of, 752; rock engravings of, 763
- Northern Territories, bibliog. of, 836; of Gold Coast, native tribes of, 748
- Nsibidi, a Negro writing of Nigeria, 791; symbolic writing of Nigeria, 755
- Nuba tribe, brief notes on, 834; customs, history, and religion of, 811; of Kordofan, physical anthropology of, 815
- Nubia, dictionary of, 799; rock engravings in, 803
- Nuer tribe, customs relating to twins in, 761; daily routine of life in, 761; initiation of boys in, 752; long article on, 778; pastoral pursuits in, 752
- Nungu tribe, of northern Nigeria, 795
- Nupe tribe, state and community of, 800
- Nyakyusa tribe, law of, introduction to, 832
- Nyamwezi tribe, long article on, 819; several works by Blohm, 741; songs of, 776; see Banyamwezi, Wanyamwezi
- Nyasaland, 779; animism of Yaos, 773; bibliog. of, 837; bibliogs. on, 847; Negro songs from, 782; notes on native tribes of, Stigand, 821; physical anthropology of, 765; Portuguese, 833; three medicine-men in, article, 834; tribal mixture in northern, 834; tribes of, long article, 820; Wangonde and Wahenge tribes, kinship system of, 812; Yao tribe in, cultural education of, 772; Yao tribe of, initiation into, 820; see British Central Africa
- Nyika tribe, 768; brief notes on, 830; see Waduruma
- Obscenity, psychology of, 761
- Occupation, and social status, 777
- Ogboni, secret society in Nigeria, 756
- Oil-palm, uses of, 812
- Oracles, 761; see Divination, Magic
- Orange Free State, bibliog. of, 838; bibliogs. for, 851
- Ornaments, of Atchwabo tribe in Portuguese East Africa, 814; deformation of lips as, 799; lip-plugs of stone as, 789; personal, bibliog. of, Heydrich, 843; of silver, how manufactured in Nigeria, 815; of Tuareg, 734, 803; see Beads
- Ostrich eggshell, uses of, 786
- Oubangi-Chari, Banda tribe of, 753; people of, 760
- Outrigger canoes, of E. Africa, 769, 776; see Canoes, Indonesia
- Ovahero, see Herero
- Ovamboland, monograph on, 825
- Ovambo tribe, books and articles on, 734, 752, 770; cultural changes among, 761
- Ovimbundu, book of, reviewed, 774; see Hambly, 770-771
- Owenat, rock paintings at, 799; see Libya
- Owerri Province, Ibo tribe in, Osu system of, 787
- Oxen, as riding animals, 789; see Baggara tribe, Cattle, Fulani tribe
- Pahouine tribe, of Gaboon, 768
- Paintings, in caves of Pyrenees, 748; in caves of western Sudan, 835; see Art, Bushmen, Cave paintings, Rock paintings
- Paleoliths, of eastern Sahara, 821; see Archaeology, Stone Age, Stone implements
- Paleontology, Duckworth, 759; of early man, recent progress and study of, 833; and evolution of man, 818; of Florisbad skull, 758; of human origins, 791; of man and his forerunners, 823; and mandible from Kopje Enkel, 813; of Natal Coast, 765; of Oldoway skeleton in Tanganyika, 808; of Pleistocene mammals of Algeria, 810; of Rhodesian man, 750, 776, 806; of stone age races of Kenya, 787; of Taungs skull, 734
- Palms (oil), uses of, 812

- Pangwe tribe, monograph on, 823; see Fan (Fang), Gaboon, Loango Coast, Pahouine
- Park (Mungo), biography of, 769
- Pastoral pursuits, see Cattle
- Patterns, of culture, 738
- Pawning, on Gold Coast, 807; of human beings in Liberia, 750; see Slavery
- Peabody Museum, Benin antiquities in, 775
- Pemba, general description of the island, 751
- Periodicals, by countries of origin (see pp. 728-732) of *Algeria*, BSGA, 729; of *America* (U.S.A.), AA, 728, AI, 728, AJPA, 728, AJS, 728, AJSL, 728, GR, 729, HAS, 729, HB, 729, JAFL, 729, JNH, 730, JRD, 730, MAAA, 730, MJ, 730, MW, 730, NGM, 731, NYB, 731, OC, 731, PrM, 731, SM, 731; of *Anglo-Egyptian Sudan*, SNR, 371, WTRL, 732; of *Austria*, Anthropos, 728, BELA, 728, MAG, 730; of *Belgium*, AMCB, 728, BECB, 728, BJID, 728, BSI, 729, Congo, 729, KO, 730, bibliog. of, Haché, 843; of *Britain*, Africa, 728, Antiquity, 728, AO, 728, AW, 728, Biometrika, 728, BSOS, 729, CAC, 729, CO, 729, EA, 729, FL, 729, GJ, 729, GSNI, 729, HERE, 729, HMSO, 729, HS, 729, IRM, 729, IRMI, 729, JAI, 729, JAS, 729, JEA, 729, JRAI, 730, Man, 730, Nature, 730, OE, 731, Res, 731, RTS, 731, UE, 732; see *Anglo-Egyptian Sudan*, *East Africa*, *Nigeria*, *Sierra Leone*, *South Africa*, *Sudan*, *Tanganyika*, *West Africa*; of *Czechoslovakia*, Anthropologie, 728; of *East Africa*, JEAU, 730; of *Egypt*, BIE, 728, MIE, 730; of *France*, Aethiopica, 728, AFA, 728, BAOF, 728, BL'ELO, 728, BMNH, 728, BMSA, 728, BSAP, 729, BSSN, 729, Cahiers d'Art, 729, CIAA, 729, Hespéris, 729, JSA, 730, L'AF, 730, L'Anthropologie, 730, L'Etnographie, 730, LG, 730, MSAP, 730, MSSN, 730, OM, 731, RAN, 731, RAR, 731, RE, 731, REES, 731, REI, 731, RES, 731, RHR, 731, RSR, 731, TC, 731, TMIE, 731; of *Germany*, AFK, 728, AFR, 728, AnAn, 728, BA, 728, DE, 729, EtAn, 729, Globus, 729, HU, 729, IAFE, 729, JPEK, 730, JVFE, 730, KR, 730, MDS, 730, MSFO, 730, NAM, 730, PM, 731, REVA, 731, ZFAO, 732, ZFE, 732, ZFR, 732, ZFVR, 732; of the *Gold Coast*, GCR, 729; of *Holland*, ANNLM, 728; of *Italy*, AAE, 728, BSGI, 729; L'AI, 730; of *Nigeria*, NF, 731, NPN, 731; of *Rhodesia*, Nada, 730, PRSA, 731, see *South Africa*; of *Sierra Leone*, SLS, 731; of *South Africa*, ANNLM, 728, ASAM, 728, ATM, 728, BS, 728, Nada, 730, PRSA, 731, RR, 731, SAJS, 731, SAO, 731, TRS, 732, TSA, 732, VRS, 732; of *Spain*, AES, 728; of *Sudan*, SNR, 731, see *Anglo-Egyptian Sudan*; of *Sweden*, Ethnos, 729, RiEt, 731, YT, 732; of *Switzerland*, BSNG, 729; of *Tanganyika*, TNR, 731; of *Uganda*, JEAU, 730, UJ, 732; of *West Africa*, GCR, 729, SLS, 731, WAR, 732, see *Nigeria*, *Sierra Leone*
- Persians, their culture in E. Africa, 774
- Personal ornament, in western Sudan, 755; see Deformation, Scarification, Tattooing
- Peuls, 823, see Fulani
- Philosophy, of primitive man, 807; see Psychology
- Phoenicians, studies of, 788; see Carthage
- Phonetics, of Efik tribe, 829; practical, for students, 831; and study of African languages, 778; see Languages, Tones
- Physical anthropology, 816; of African types, popular article, Seligman, 1932, 816; of American Negroes and Whites, measurements compared, 825; of Angolan tribes, 748; and anthropometry of central Sudan tribes, 822; and anthropometry of E. African natives, 788; and anthropometry of natives of Portuguese E. Africa, 789; and anthropometry of 93 skulls from Cameroons, 784; and anthropometry of skulls from Kenya, 783; and anthropometry in S. Arabia, 823; and antiquity of man, 782; of Arabs, 815; of Arabs of Iraq, 762; bibliogs. of, Crocker, 849, Martin, 841; of Bushmen-Hottentot-Strandlooper tangle, 758; and capacity of Negro skulls, 778; and catalogue of skulls in U. S. Nat. Mus., Washington, 776; cephalic index of American-born children, 774; cephalic indices, 804; changes in bodily form, 741; climate and nasal width, 754; contributions of Von Bonin, 741; crania from Siwa, 756; cranial capacities determined, formula for, 824; cranial indices of Negro tribes, Struck, 821; Duckworth, 759; early general work on, Topinard, 825; of Egypt, Chantre, 749; of Egyptians, ancient, 818; environment and race, 823; of Eritrea, 737; evolution of man, 818; foot of S. African native, anatomical details, 830;

- figures made in, 770; *tandu* industry of, 736; thunder stones from, 759; Tiv (Munshi) tribe of, 758; totemism in, 752; travels in a motor truck in, 770; tribal marks in, 826; and tribes of lower Niger, 788; the "Voice of Africa," Frobenius, 765; Yoruba string figures in, 803
- Nile, description of, Ludwig, 790; discovery of source of, 819; exploration of source of, 736; general ethnology of upper region, 753
- Nilotic Negroes, Bari, Dinka, Shilluk, and others, large general monograph, C. G. and B. Z. Seligman, 816; pictorial and popular account of, 739; C. G. Seligman on, 816
- Nkundo tribe, funeral customs of, 776
- Nomadism, in Morocco, Nouvel, 857; in N. Africa, 766; in Tunisia, 776; see Bedouin Arabs, Gypsies
- Nomori*, figures, from W. Africa, 780; stone figures from Sierra Leone, 733
- North Africa, archaeology of Fezzan region in, 835; arts and industries of, 809; birds of, 807; French possessions in, bibliogs. for, 855; physical anthropology of, 752; rock engravings of, 763
- Northern Territories, bibliog. of, 836; of Gold Coast, native tribes of, 748
- Nsibidi, a Negro writing of Nigeria, 791; symbolic writing of Nigeria, 755
- Nuba tribe, brief notes on, 834; customs, history, and religion of, 811; of Kordofan, physical anthropology of, 815
- Nubia, dictionary of, 799; rock engravings in, 803
- Nuer tribe, customs relating to twins in, 761; daily routine of life in, 761; initiation of boys in, 752; long article on, 778; pastoral pursuits in, 752
- Nungu tribe, of northern Nigeria, 795
- Nupe tribe, state and community of, 800
- Nyakyusa tribe, law of, introduction to, 832
- Nyamwezi tribe, long article on, 819; several works by Blohm, 741; songs of, 776; see Banyamwezi, Wanyamwezi
- Nyasaland, 779; animism of Yaos, 773; bibliog. of, 837; bibliogs. on, 847; Negro songs from, 782; notes on native tribes of, Stigand, 821; physical anthropology of, 765; Portuguese, 833; three medicine-men in, article, 834; tribal mixture in northern, 834; tribes of, long article, 820; Wangonde and Wahenge tribes, kinship system of, 812; Yao tribe in, cultural education of, 772; Yao tribe of, initiation into, 820; see British Central Africa
- Nyika tribe, 768; brief notes on, 830; see Waduruma
- Obscenity, psychology of, 761
- Occupation, and social status, 777
- Ogboni, secret society in Nigeria, 756
- Oil-palm, uses of, 812
- Oracles, 761; see Divination, Magic
- Orange Free State, bibliog. of, 838; bibliogs. for, 851
- Ornaments, of Atchwabo tribe in Portuguese East Africa, 814; deformation of lips as, 799; lip-plugs of stone as, 789; personal, bibliog. of, Heydrich, 843; of silver, how manufactured in Nigeria, 815; of Tuareg, 734, 803; see Beads
- Ostrich eggshell, uses of, 786
- Oubangi-Chari, Banda tribe of, 753; people of, 760
- Outrigger canoes, of E. Africa, 769, 776; see Canoes, Indonesia
- Ovahero, see Herero
- Ovamboland, monograph on, 825
- Ovambo tribe, books and articles on, 734, 752, 770; cultural changes among, 761
- Ovimbundu, book of, reviewed, 774; see Hambly, 770-771
- Owenat, rock paintings at, 799; see Libya
- Owerri Province, Ibo tribe in, Osu system of, 787
- Oxen, as riding animals, 789; see Baggara tribe, Cattle, Fulani tribe
- Pahouine tribe, of Gaboon, 768
- Paintings, in caves of Pyrenees, 748; in caves of western Sudan, 835; see Art, Bushmen, Cave paintings, Rock paintings
- Paleoliths, of eastern Sahara, 821; see Archaeology, Stone Age, Stone implements
- Paleontology, Duckworth, 759; of early man, recent progress and study of, 833; and evolution of man, 818; of Florisbad skull, 758; of human origins, 791; of man and his forerunners, 823; and mandible from Kopje Enkel, 813; of Natal Coast, 765; of Oldoway skeleton in Tanganyika, 808; of Pleistocene mammals of Algeria, 810; of Rhodesian man, 750, 776, 806; of stone age races of Kenya, 787; of Taungs skull, 734
- Palms (oil), uses of, 812

- Pangwe tribe, monograph on, 823; see Fan (Fang), Gaboon, Loango Coast, Pahouine
- Park (Mungo), biography of, 769
- Pastoral pursuits, see Cattle
- Patterns, of culture, 738
- Pawning, on Gold Coast, 807; of human beings in Liberia, 750; see Slavery
- Peabody Museum, Benin antiquities in, 775
- Pemba, general description of the island, 751
- Periodicals, by countries of origin (see pp. 728-732) of *Algeria*, BSGA, 729; of *America (U.S.A.)*, AA, 728, AI, 728, AJPA, 728, AJS, 728, AJSL, 728, GR, 729, HAS, 729, HB, 729, JAFL, 729, JNH, 730, JRD, 730, MAAA, 730, MJ, 730, MW, 730, NGM, 731, NYB, 731, OC, 731, PrM, 731, SM, 731; of *Anglo-Egyptian Sudan*, SNR, 371, WTRL, 732; of *Austria*, Anthropos, 728, BELA, 728, MAG, 730; of *Belgium*, AMCB, 728, BECB, 728, BJID, 728, BSI, 729, Congo, 729, KO, 730, bibliog. of, Haché, 843; of *Britain*, Africa, 728, Antiquity, 728, AO, 728, AW, 728, Biometrika, 728, BSOS, 729, CAC, 729, CO, 729, EA, 729, FL, 729, GJ, 729, GSNI, 729, HERE, 729, HMSO, 729, HS, 729, IRM, 729, IRMI, 729, JAI, 729, JAS, 729, JEA, 729, JRAI, 730, Man, 730, Nature, 730, OE, 731, Res, 731, RTS, 731, UE, 732; see *Anglo-Egyptian Sudan*, *East Africa*, *Nigeria*, *Sierra Leone*, *South Africa*, *Sudan*, *Tanganyika*, *West Africa*; of *Czechoslovakia*, Anthropologie, 728; of *East Africa*, JEAU, 730; of *Egypt*, BIE, 728, MIE, 730; of *France*, Aethiopica, 728, AFA, 728, BAOF, 728, BL'ELO, 728, BMNH, 728, BMSA, 728, BSAP, 729, BSSN, 729, Cahiers d'Art, 729, CIAA, 729, Hespéris, 729, JSA, 730, L'AF, 730, L'Anthropologie, 730, L'Etnographie, 730, LG, 730, MSAP, 730, MSSN, 730, OM, 731, RAn, 731, RAr, 731, RE, 731, REES, 731, REI, 731, RES, 731, RHR, 731, RSR, 731, TC, 731, TMIE, 731; of *Germany*, AFK, 728, AFR, 728, AnAn, 728, BA, 728, DE, 729, EtAn, 729, Globus, 729, HU, 729, IAFE, 729, JPEK, 730, JVFE, 730, KR, 730, MDS, 730, MSFO, 730, NAM, 730, PM, 731, REVA, 731, ZFAO, 732, ZFE, 732, ZFR, 732, ZFVR, 732; of the *Gold Coast*, GCR, 729; of *Holland*, ANNM, 728; of *Italy*, AAE, 728, BSGI, 729; L'AI, 730; of *Nigeria*, NF, 731, NPN, 731; of *Rhodesia*, Nada, 730, PRSA, 731, see *South Africa*; of *Sierra Leone*, SLS, 731; of *South Africa*, ANNM, 728, ASAM, 728, ATM, 728, BS, 728, Nada, 730, PRSA, 731, RR, 731, SAJS, 731, SAO, 731, TRS, 732, TSA, 732, VRS, 732; of *Spain*, AES, 728; of *Sudan*, SNR, 731, see *Anglo-Egyptian Sudan*; of *Sweden*, Ethnos, 729, RiEt, 731, YT, 732; of *Switzerland*, BSNG, 729; of *Tanganyika*, TNR, 731; of *Uganda*, JEAU, 730, UJ, 732; of *West Africa*, GCR, 729, SLS, 731, WAR, 732, see *Nigeria*, *Sierra Leone*
- Persians, their culture in E. Africa, 774
- Personal ornament, in western Sudan, 755; see Deformation, Scarification, Tattooing
- Peuls, 823, see Fulani
- Philosophy, of primitive man, 807; see Psychology
- Phoenicians, studies of, 788; see Carthage
- Phonetics, of Efik tribe, 829; practical, for students, 831; and study of African languages, 778; see Languages, Tones
- Physical anthropology, 816; of African types, popular article, Seligman, 1932, 816; of American Negroes and Whites, measurements compared, 825; of Angolan tribes, 748; and anthropometry of central Sudan tribes, 822; and anthropometry of E. African natives, 788; and anthropometry of natives of Portuguese E. Africa, 789; and anthropometry of 93 skulls from Cameroons, 784; and anthropometry of skulls from Kenya, 783; and anthropometry in S. Arabia, 823; and antiquity of man, 782; of Arabs, 815; of Arabs of Iraq, 762; bibliogs. of, Crocker, 849, Martin, 841; of Bushmen-Hottentot-Strandlooper tangle, 758; and capacity of Negro skulls, 778; and catalogue of skulls in U. S. Nat. Mus., Washington, 776; cephalic index of American-born children, 774; cephalic indices, 804; changes in bodily form, 741; climate and nasal width, 754; contributions of Von Bonin, 741; crania from Siwa, 756; cranial capacities determined, formula for, 824; cranial indices of Negro tribes, Struck, 821; Duckworth, 759; early general work on, Topinard, 825; of Egypt, Chantre, 749; of Egyptians, ancient, 818; environment and race, 823; of Eritrea, 737; evolution of man, 818; foot of S. African native, anatomical details, 830;

- general work on races of mankind, 754; and genetics, 766; the gorilla, 751; and human migrations, Dixon, 757; human origins and migrations, Montandon, 1928, 798; introduction to, 821; Jamaica, crossing of Negroes and Whites in, 820; of Kabyles, pigmentation of skin, hair, and eyes, 782; of Kordofan, Struck, 821; man and his forerunners, 823; and measurements of skeletons of Akas, 763; and measurements on 100 W. African Negroes, Weninger, 830; of Munshi tribe in Nigeria, 793; nasal index and climate, 824; Negro features, specific and entrenched, 825; of Negroes of Congo region, 782; of Negroes of Natal and Zululand, 822; of N. Africa, 750, 752, Chantre, 749, Cipriani, Coon, 751; of Nuba tribe in Kordofan, 815; of Nyasaland, 765; and Oldoway skeleton, 808; and origin of man, Hooton, 776; of the *os coxa* in man, 806; periodicals AJPA, 728, Biometrika, 728, HB, 729, JRD, 730, ZFR 732, see Statistics; of platymery of Bushmen and Hottentots, 805; of Pygmies and physical characters of their children, 813; of Pygmies, standard work, anthropometry, Lebzelter and Schebesta, 1933, 813; of Pygmy and Bushman skulls compared, 784; and race crossing in Jamaica, 754; of race, sex, and environment, 766, 794; and races of mankind, general textbook, 814; and racial characteristics, 741; and relation to cultural anthropology, 776; of Rwala Bedouins, 817; of S. African Negroes, 754; and study of Negro skulls with measurements, 739; textbook, 3 vols., Martin, 841; of Transjordan Arabs, 817; of Zenata tribe of Sahara, 787
- Physiology, Bantu ideas concerning, 781; of Negroes of Natal and Zululand, 822; and study of racial metabolism, 738
- Pigmentation, anomalies of, 820; see Physical anthropology
- Pleistocene, mammals of Algeria, 810; see Paleontology
- Poetry, 833; of Hausa, 807; see Hymns, Music, Songs
- Poisons, for arrows, 770; in plants of southern Africa, 829; used in fishing, 750
- Pokomo tribe, brief notes on, 830
- Political areas, bibliog. of, 836-839; Prostov's bibliog., 840-866
- Politics, of Africa, external relations of, 791; of Anglo-Egyptian Sudan, 790; and European partitioning of Africa, 790; periodicals relating to, AO, 728; AW, 728, CAC, 729, EA, 729, HMSO, 729, JAS, 729, L'AF, 730, OM, 731, Res, 731, RR, 731, UE, 732; and position of Africa in the world today, 771; see Administration
- Polygamy, in Mende tribe, 752
- Pondo women, effects of European contacts with, 777
- Population, distribution of, in E. Africa, 736; old method of registration in Dahomey, 773; problems of, Uhden, 826; see Census, Demography
- Portugal, and Dahomey, 812; early settlements of, in Congo, Cavazzi, 748, Lopez, 790; embassy of, to Abyssinia, 734; history of, in Abyssinia, 808; methods of colonization by, 756; possessions of, in Africa, Meyer, 1918, 797; possessions of, bibliogs. for, 861-862; see Angola, Portuguese East Africa, Portuguese Guinea
- Portuguese East Africa, 751; anthropometry of natives, 789; bibliog. of, 838; ethnological questionnaire of, 799; general description of, 795; kinship system of Vandau tribe in, 741; labor recruited in, 817; races and languages of Mozambique in, 802; scarification in, 759; three important articles on, clothing and ornament, initiation, sacrifice and prayer, Scheulien, 814; see Bathonga, Makonde, Vandau
- Portuguese Guinea, Bernatzik, standard work on ethnology, 2 vols., 739; bibliog. of, 838; bibliogs. for, 862; Simõe, 817
- Portuguese Nyasaland, book, general information, 833
- Portuguese West Africa, bibliog. of, 837; bibliogs. for, 862; see Angola
- Portuguese Zambezia, notes on native tribes of, 821
- Possession, by spirit in Vandau tribe, 781
- Pottery, of Bakonjo tribe, 801; of Bantu tribes in S. Africa, 785; and culture contacts of Egypt, Mesopotamia, and Syria, 764; of eastern Sudan, 752; of Edo peoples in Nigeria, article on, 824; of Hottentot and Bushman tribes, 785; of Kabyles, 800; manufacture of, near Blue Nile, 792; at Sokoto, 801; stone age types of, from Gold Coast and Ashanti, 832

- Prayer, in Atchwabo tribe of Portuguese East Africa, 814; see Magic, Religion, Sacrifice
- Priestess, of Leopard society, Rattray, 807
- Property concepts, of Vandau tribe, 773; see Inheritance, Law
- Prostitution, all Africa considered, Vendeix, 827; and tattooing, 785
- Proverbs, of Gweabo tribe in Liberia, 812; of Hausa tribe, 807; of Jabo tribe in Liberia, 773; of Kamba tribe, 789; of Mayombi tribe, 740; Meinhof, 1911, 796; of Tonga-Shangaan people, 781
- Psychoanalysis, and anthropology, 780; applied to ethnology, 741; and primitive cultural types, 810; the unconscious and social heritage, 816
- Psychology, 733, 741, and anthropology, 737, 816; back of black man's mind, 756; of Chagga tribe, 769; and character development, 810; and characteristics of African thought, 757; and childhood, first year of, in S. Africa, Walk, 828; conflict and dreams, 809; cranial capacity and intelligence, 808; and culture, 800, 832; and dreams of Dagomba and Moshi tribes, 748, see Dreams; and dreams, note on, 816; of dreams and totemism, Freud, 764; of east African Negroes, Weule, 1926, 831; and ethnology, modern treatise in German and translation, 834; evolution of S. African native mind, 777; and folklore, 794; and folklore, Rattray, 807; Frählsle, 764; Freudian mechanisms and Negro mentality, 773; and gaiety of the Negro, 817; and intelligence tests, 801; and intelligence tests in S. Africa, 762; of Mende tribe, 775; and mental capacity of Africans, 767; and mental and moral capabilities of natives in eastern Transvaal, 833; and missionary enterprise, 824; and monograph on study of dreams, 789; and mythology, 807; of Negro art, 792; and obscene expressions, 761; and performance tests of Negro children, 801; and primitive man as philosopher, 807; and primitive mentality, 788, Aldrich, 733, Boas, 741; of primitive trade and economics, 776; psychoanalysis and anthropology, 780, 793; psychoanalysis and ethnology, 741; psychoanalysis and sex repression, 793; and race, Lowie, 790; and racial differences in mental capacity, 754, 765; of sex and temperament, 795; of the unconscious mind and social heritage, 816; see Intelligence tests, Psychoanalysis
- Puberty rites, 779; and fattening of girls in Efik tribe, 793; see Circumcision, Initiation, Secret society
- Punch and Judy show, 733
- Pygmies, anatomy of, old book on, 1699, Tyson, 826; article, popular, excellent pictures, 733; bibliog. of, Quatre-fages, 841; blood-group studies among, 780; blood-group tests among, 778; compared with Bushmen, comprehensive study of, Immenroth, 778; of Congo region, 768; culture of, large volume, 826; Du Chailly, 759; early book on, 806; Eickstedt, brief article, 760; in forests of Ivory Coast, 778; funeral customs of, 816; general account of, 739, 750, 771, 779; historical theories concerning, volume on, 814; of Ituri forest, 769, 806; of Kivu, 815; measurements on six, 791; measurements on skeletons of Akas, 763; monograph on, 788; numerous books and articles on, Schebesta, 813; philological essay on, 833; physical anthropology of, Cipriani, 750; relationship of, to Bushmen discussed, 774; of Sanga river, 784, and their language, 802, physical anthropology of, 806; skull formation of, 784; stone implements of, from Cape Colony, 733
- Rabeh, exploits of, 802
- Races, likeness of, 763; migrations of, 823; sex and environment, 794; see Anthropometry, Physical anthropology
- Raik Dinka, long article on, 825; see Dinka, Nilotic Negroes
- Railways, Cape Town to Cairo, 818, 832
- Rainfall, of S. Africa, 781; see Climate
- Rain-making, in Anjanja tribe, 774
- Rehobother bastards, 763; see, Hottentots, Miscegenation
- Reincarnation, African beliefs in, 739
- Religion, of Africa in general, 814; and African names for God, 777; African type of, 796; in Agni tribe, 823; agriculture, and the earth goddess of W. Africa, 780; of Akikuyu tribe, 748, 782; and ancestor worship, Roscoe, 810-811; and ancestor worship, secular aspect of, 758; and animal cults, long article on, Weissenborn, 829; animism and beliefs in God in Ibo tribe, 752; and art in Ashanti, 807; of Azande tribe, 805; in Bakarewe tribe, 777; of Bakongo tribe, Wing, 833; of Bakwiri tribe, 778; in Bambara tribe, 823; and Bantu

- conception of soul, 832; Barundi tribe, ideas of God in, 835; of Bavenda tribe, 781; bibliographical sources, Meinhof, 843; of Bobo tribe in French Sudan, 769; of Bushmen, articles on, 787, 814; of Cameroons, in Eyap tribe, 793; comparative study of, in Indo-Bantu region, 760; Dahomean beliefs, 773; Durkheim, theories of, 759; of Ewe tribe, 819; of Fan, 733; Frazer, on sky and earth worship, 764; of Gā people of Gold Coast, 762; God, ideas of, all Africa surveyed, 832, among Bantu, Hamites, and Sudanic Negroes, Wiedeman, 831, in Zulu tribes, several important articles, 828; of Herero tribe, 743, 778, 791; of Ituri Pygmies, 813; of Kavirondo and other Uganda tribes, 819; of Kipsigi tribe in Kenya, 802; of Logbara tribe, of north Uganda, 807; and magic, 786; magic and sorcery, Torday, 1929a, 825; in Mayombe tribe, 755; Mohammedanism, pagan survivals in, 831; and mythology, 786; in Nuba tribe, 811; and origin of idea of God, treatise on, P. W. Schmidt, 814; Osu system of, in Ibo tribe of Nigeria, 787; of Ovimbundu of Angola, 771; periodicals AFR, 728, HERE, 729, OC, 731, RHR, 731, RSR, 731, RTS, 731; and phallus cult, among Ba Pedi tribe, 833; primitive faith, hope, and charity in, 794; primitive forms of, studied, Lowie, 790; of primitive people, 788; problems of, Hildebrand, 773; and puberty rites, 810; and reincarnation, 739; of Semites, 818; and serpent worship, 770; of Shilluk tribe, 752, 775; and social organization, Bantu traits, 825; and soul of the Bantu, 832; and soul trapping in Nigeria, 793; in Southern Rhodesia, 806; and tattooing, 772; in Togoland, 799; of Toura tribe in W. Africa, 823; of tribes of White Nile, 816; of Wa Barwe tribe, 817; of W. Africa, Westermann, 1928, 831; of Zulus, 748; see Christianity, God, Magic, Medicine-men, Missions, Mohammedanism
- Reptiles, 790; world study of, 757; see Pythons, Serpents, Tortoises
- Réunion, bibliogs. for, 855
- Rhodes (Cecil), biography of, 797
- Rhodesia, archaeology of, Bambata Cave in, 735; Babemba tribe in, cultural changes among, 809; bibliog. of, 838, 851-852; ethnological studies of, 768; geography and human life in, 776; history of, with maps, 819; Lamba tribe in, 757; matrilineal marriage in, 812; in medieval times, 791, native development in, 817; native tribes of N. E., 752; Northern, Baila tribe in, 2 vols., 818; relics of pre-European culture in, 826; Southern, marriage in Babudja tribe in, 832, names and naming customs in, 832; native tribes of, surveyed, 806; stone age in, 780, 792; stone implements from, 736, 765; stone implements from sawmills in, 780
- Rhodesian man, article on, 750; and associated remains, 806; Hrdlicka's study of, 776; see Paleontology
- Riddles, of Akamba tribe, 789; of Kxatla tribe, 812; see Proverbs
- Rift Valley, ancient civilization of, 832; and earthquakes, Willis, 832; geological studies of, 768
- Rio de Oro, bibliog. for, 866
- Ritual, and occupations, 771
- Rock engravings, of Adrar Ahnet, in Sahara, 798; in Air, 835; of Bushmen, Zelitzko, 834; of Egyptians, Libyans, and Spanish caves compared, 823; of Griqualand, 832; of N. Africa, 784; in N. and S. Africa, 804; in Nubia, 803
- Rock paintings, of Bushmen, 825; and engravings, of N. Africa, 765; of Kordofan, 810; of northern Kordofan, 792; at Owenat, 799; of Sahara, 803, 809; of S. Africa, 740, 765, 821; in Tanganyika Territory, 735, 753, 800; see Bushmen, Painting, Sculpture
- Rohan-Chabot scientific mission, in Angola, 775
- Rome, history of rule in Egypt, 797; influence of, in Africa, archaeological evidence for, 741; influence of, on Carthage, 769; Negro influence in art and literature of, 738
- Rotse, general account of tribe, 738; see Barotse, Marotse
- Royal Colonial Institute, library and bibliogs. of, now Royal Empire Society, 843
- Royal Empire Society, bibliogs., Varley, 827; library and bibliogs. of, 843
- Ruanda tribe, cattle customs relating to, 756; divination in, 735; ethnological and general, several articles, 803; foreign cultural influences in, 782; marriage ceremonies in, important articles, 814; secret societies of, 735
- Rudolf Lake, explored, 775
- Ruwenzori, exploration near, 777; journey from, to Congo, 833

- Sacraments, 794
- Sacrifice, of Akikuyu tribe, 782; of Atchwabo tribe in Portuguese East Africa, 814; of dogs, 757; origins of, 786; see Cattle, Magic, Religion
- Sahara, De Agostini, 733; automobiles for crossing, 769; bibliog. of, Monod, 798; bibliogs. for, 855-857, 859, caravan routes of, 742; central region, archaeological observations of, 804; a crossing from Tripoli to Bornu, 828; Denham's exploration of, Rodd, 810; early exploration about 1828, 756; exploration, 764, 782, 788, 800; exploration about 1864, 759; exploration of Libya and Tibesti, Umberto, 827; and exploration of Tibesti and adjacent regions, 824; general description of Tuareg of, 738; general exploration of, 750; general monograph on, 814; historical, books and articles on, by Bovill, 742, and Palmer, 803; historical, geological, ethnological information by Gautier, 766, and Mayhew, 795; life of Charles de Foucauld in, 738; modern developments and transportation in, 756; population and migration in, 735; rock engravings of Adrar Ahnet in, 798; rock engravings and paintings of, 766, 809; rock paintings in, 803; Tafilet described, 771; travel in, 800; Tuareg of, and their ornaments, 734; see Libya, Teda, Tibbu, Tibesti, Timbuktu, Tuareg, Zaghawa
- Saint Helena, bibliog. for, 848
- Sanctions, 794; see Law, Religion
- Sandawe tribe, 782
- Sanga River, Babenga Pygmy tribes near, 808; language of Pygmies near, 802; Pygmies living near, short article, 784; Pygmies of region, physical anthropology of, 806
- Sansa*, musical instrument, 777
- Sarakole tribe, 754; book on, 811; see Soninke
- Scarification, Decorse on W. Sudan, 755; of Gold Coast tribes, 735; in Nuer tribe, 752; in S. Africa, 826; tribal marks in Nigeria, 826; of tribes in Portuguese East Africa, 759
- Schambala tribe, law of, article on, 833
- Sculpture, chiefly wood-carving, Sydow, 822; clay heads from Fomena in Ashanti, 832; see Art, Bronze, Figurines, Wood-carving
- Secret societies, 738, 742; of Belgian Congo, 780; of Gaboon, 772; of Lughwara tribe, 758; masks used by, 765; of Ogoni, 756; of Ruanda tribe, 735; of Sierra Leone, 733; of W. Africa, 794, 824; see Initiation
- Ségregation, policy of, in S. Africa, 775
- Semites, history and languages of, 809; kinship system of, 816; languages of, Cohen, 751; origins of, 737; periodical *AJSL*, 728; see Arabs, Bedouins, Jews, Phoenicians
- Senegal, bibliog. of, 838; bibliogs. for, 859-860; and Gambia, population of, generally described, 739; legends and customs from, 765; religion of, 818; tribes of region of, ethnological notes on, three articles, Tautain, 822
- Sennar, 803; Fung tribe, kingship in, 809
- Sénoufo tribe, see Siéna
- Serf tribes, 777; see Blacksmiths, Hunting, Ironwork
- Serpents, in African belief and customs, Hambly, article and book on, 770
- Sex, phallus cult, among Ba Pedi tribe, 833; ratios, 793, see Demography; and repression, 793; rites, Goodland, 841; study of, in Egyptian mummy, 829; and temperament, 795
- Seychelles, bibliogs. for, 848
- Shawia Berbers, 773; see Algeria, Berbers, Kabyles
- Shell-mounds, of S. Africa, 787
- Sherbro, 733
- Shields, important articles on types and distribution of, with map, 813; of Masai, 821
- Shilluk, books and articles on, Seligman, 816; folklore and language of, 831; magic and religion of, 752; religion of, monograph on, 775
- Shona tribe, phonetics of language of, 757; see Mashona
- Shuwa Arabs, folklore of, 776
- Shuwalbe Fulani, article on, 833; see Bororo, Fulani
- Siéna tribe, 755
- Sierra Leone, bibliog. of, 838, 847, 853; general account of tribes of, 768; general description of, 797; general work on, 733; handbook of, 767, 800; Kono tribe in, clans and names of, 786; masks of, 760; Mende psychology and political life of, 775; Negro law in, 762; *Nomori* figures from, 733, 780; periodical *SLS*, 731; secret society of, 733; story of development of, 827; string figures from, 776; Timne tribe in, short article, 823; trident from, 770; voyage to, in 1788, 795; writing of Mende tribe in, 822

- Signaling, alphabets, and telegraph system, 826; drum language of W. Africa, 807; by drums, 776; see Drums
- Silverwork, a substantial book on, 811
- Sinai, general description of, see Arabia, Egypt, 788
- Siwa, a deformed skull from, 775; general ethnology of, 750; general and rather popular accounts of, 738; language of, 737, W. S. Walker, 828; music of, 813; study of crania from, 756
- Skulls, from Abyssinia, Sergi, 1912, 816; of African Bush races, 817; catalogue of, in U. S. Nat. Mus., Washington, 776; Chagga tribe, 30 skulls measured, 831; in Coryndon Memorial Museum, 787; cranial capacity of, and linear dimensions, 825; and cranial capacity of Negroes, 778, 824; cranial capacity of, in relation to intelligence, 808; fossilized, from Eyassai, 787; of Negroes, anthropometric study of, 783; study of Negro types of, with measurements, 739; see Anthropometry, Cranium, Physical anthropology
- Sky worship, 764
- Slave Coast, 742; about 1875, 752; see Ashanti, Dahomey, Guinea
- Slavery, in all its forms, 791; attitude of church toward, 790; journal of slave dealer, 794, 802; see Pawning
- Slings, use of, Lindblom, 1927c, 789
- Smuts (General), biography of, 797
- Snakes, of Belgian Congo, 814; world study of, 757
- Snuff boxes, in S. African Museum, 817
- Social organization, 809; of Bomvana tribe, 751; general African survey of, 824; of Latuko tribe, C. G. Seligman, 1925, 816; and occupation, 777; see Age-grades, Chieftainship, Kinship, Secret societies
- Social science, abstracts of, a bibliographical source, 840; bibliogs. of, 840; and diet, 763; and relation of, to geography, 742; Westermarck, 831; see Methodology
- Sociology, of African races, 819; "Allgemeine Soziologie," 828; culture and ethnology, Lowie, 790; Institute of, bibliogs. published, Steinmetz, 841; periodicals AJS, 728, JRD, 730, REES, RES, 731; principles and study of, 819; recent elementary textbook of, 766; study of man, Linton, 789; theories of social progress, 825
- Soil erosion, economic effects of, 749, 774; properties of, 817
- Sokoto, pottery made at, 801
- Somali tribe, 762; anthropology and ethnography of, 803; anthropometry of, 806, 807; political development of, short article, 783
- Somaliland, general travel in, 779; (British), bibliog. on, 847; (French), bibliogs. for, 854; (Italian), bibliogs. for, 865; (British), customs in western portion of, 803; (British), ruined towns of, 753; seventeen trips through, 822; stone implements from, 816
- Songs, of children, in southern Sudan, 826; of Ewe tribe, 833; general, of Africans, Seidel, 815; of Nyamwezi tribe, 776; from Nyasaland, 782; see Games, Music, Poetry
- Soninke tribe, ethnological notes, 754
- Sorcery, Evans-Pritchard, 761; general study of, 756; used by natives of Bechuanaland, 812; in western Bantu, 825; see Magic, Medicine-men, Witchcraft
- Sources, bibliog. of, by Prostov, 840-866
- South Africa, administration, education, and politics of, Macmillan, 792; Balemba tribe of, short article, 820; Bantu tribes of, Eiselen, 760; (Basutoland, Bechuanaland, Natal, Orange Free State, Rhodesia, Swaziland, Transvaal), bibliog. of, 838; Bavenda tribe of, important work, 820; bibliog., Schapera, 1934c, 812; bibliogs. for, 849-852; biographies of Rhodes and Smuts, Millin, 797; birds of, 820; blood-group tests of Bantu in, 761; bows and arrows in, history and distribution of, 792; caves, implements, and shell-mounds in, 787; constitutional position of, 826; culture contacts studied in, 813; customs relating to twins in, 812; early exploration of, 765; economic and social conditions of native life in, 780; education of natives in, 805; ethnological studies in, census of village, functional studies, mother-right, tribal government in transition, Richards, 809; ethnological survey of tribes in, 813; ethnology, linguistic study, and prehistory of, 792; first year of childhood in, 828; general ethnology and physical anthropology of, Fritsch, 764; general travel and exploration of, 775; geographical factors of, 754; historical, 828; historical and political, 767; history of Jews in, 772; human skeletal remains from the Cape Coast in, 830; hunters and food gatherers of,

- monograph on, 810; Kafir laws and customs of, 791; law and custom of the constitution in, 782; mineral resources of, 759; monograph on, 775; music and musical instruments of, 783; native law of, 831; native races of, monograph on, 821; periodicals ASAM, 728, ATM, 729, BS, 728, NADA, 730, PRSA, 731, SAJS, 731, SAO, 731, TRS, 732, TSA, 732; physical types of, 769; pottery of Bantu tribes in, 785; pottery of Bushmen and Hottentots, 785; prehistoric skeletons from, 765; present and future of ethnographical research in, 812; race relations of, and improvement, 790; rainfall in, 780; rock paintings and sculptures of, 765; some race problems in, 762; southeastern Bantu, monograph on, 818; stone huts in, 790; stone implements of, 762, 767; stone implements from Taungs in, 780; string figures from, 769; survey of Bantu tribes in, 829; tribal marks of natives in, 826; tribes of, 759; tsetse-fly in, influence of, on human life, 756; various articles on administration of, 743; see Basutoland, Bechuanaland, Natal, Orange Free State, Rhodesia, S. W. Africa, Swaziland
- South America, Negroes of Dutch Guiana in, 773
- Southern Rhodesia, birds of, 806; religion of natives of, 806; see Rhodesia, South Africa
- South West Africa, bibliog. of, 838; languages of Ovambo and Vakwanyama tribe in, 825; native tribes of, 764; various tribes of, important works, Vedder, 827
- Spain, amulets from, series of articles on, 773; caves of, 809; Mohammedanism in, 758, 821; paleolithic art in, 743; periodical AES, 728; possessions of, in Africa, 756, bibliogs. for, 865-866
- Spanish Guinea, bibliog. for, 865
- Spears, of Masai, 821; with two or more points, 789
- Spelling, of geographical names standardized, pamphlets by GJ, 729
- Spittle, ceremonial use of, in Chagga tribe, 808
- Staffs, with two or more points, 789
- Stanley, H. M., autobiography, edited by his wife, 819
- Statistics, and coefficient of racial likeness, 804; introduction to the theory and function of, 834; periodicals AJPA, Biometrika, HB, ZFR, 728; textbook on, 763, 766; see Anthropometry, Physical anthropology
- Statuettes, of stone and clay in W. Africa, 800
- Steatite, *Nomori* figures of, from W. Africa, 780
- Stefani Lake, explored, 775
- Stilts, ceremonial use of, 789
- Stone, lip-plugs of, 789; see Stone age, Stone implements
- Stone age, in Belgian Congo, 819; in Congo region, 796; cultures of, in Kenya, 787; cultures of, in S. Africa, 796; in eastern Sahara, 821; in Egypt, 816; in Europe and Africa, 742; guide to objects in British Museum, 808; in Morocco, 817; periods of, in Egypt, 748; pottery of, from Ashanti and Gold Coast, 832; sites in Rhodesia, 792; in Uganda, Wayland, 829
- Stone armlets, from Gold Coast, 748
- Stone circles, in Gambia, 795, 803, 825
- Stone huts, of Vechtkop in S. Africa, 790
- Stone implements, African, in Trocadéro Museum, 782; from Cape Colony and Griqualand-East, 764; cleavers of Nigeria, 736; evolution of Egyptian types of, 781; from Mt. Elgon, 799; of Natal, 811; of neolithic type in Cameroons, 764; of Nigeria, 743; and notes on Capsian culture, 827; of Pygmy form, seven from Cape Colony, 733; from Rhodesia and Zambezi, 736; from Somaliland, 816; of S. Africa, 762, 767, 804; from Swaziland, 780; from Zambezi Valley, 786
- Stone monuments, of Madagascar, 788
- Strandloopers, physical relations of, to Bushmen and Hottentots, 758
- String figures, 770, 789; of central Africa, 753; from Liberia, Sierra Leone, and Zanzibar, 776; from S. Africa, 769; of Yoruba tribe, 803; see Games
- Sudan (eastern), 803; (eastern), anthropometry in, 826; anthropometry of central tribes in, 822; (middle), Baja tribe of, monograph on, 823; (French), bibliog. of, 837; (southern), bibliog. of languages, 821; (Anglo-Egyptian), bibliogs. on, 846; (western), counting systems of, large treatise on, Kluge, 783; (eastern), and educational experiments in, 753; (western), exploration of, about 1868, 792; (western), geographical conditions of, 784; (eastern), historical, 751; (western),

- historical, Palmer, 803; languages of, important article, 824; and life of Gordon, 733; (southern), linguistic situation in, 826; (western), Negro tribes of, ethnological monographs by Tauxier, 822, 823; (Anglo-Egyptian), periodical SNR, 731, WTRL, 732; (western), physical anthropology of, Chantre, 749; plants and animals of, and their relation to ethnology, 806; (western), sociological notes on, 835; (southern), some little-known tribes of, 816; throwing knives of, 810; warfare with Mahdi in, 739; (northern), wedding customs in, 752
- Suicide, among Akikuyu, 738
- Suk tribe, 737; general work on, 738; source for pictures of, 736
- Sukuma tribe, village organization among, 832
- Surgeon-General's office, Washington, index catalogue, a bibliographical source, 840
- Surgery, of Arabs in N. Africa, 773; see Circumcision, Clitoridectomy, Medicine-men, Therapeutics
- Swahili, bibliog. of, 847; customs and usages, 834; dances of, 818; a first book of, 830; tales, 820
- Swaziland, bibliog. of, 838, 852; economic geography of, 758; military organization of, 738; stone implements from, 780
- Sweden, periodicals Ethnos, 729, RiEt, 731, YT, 732
- Swords, for throwing, 810; see Knives, Throwing knives
- Symbolic messages, 741, 767
- Taboos, as negative magic, 794; and totemism, 764; see Magic, Medicine-men, Religion, Ritual and occupation
- Tanala tribe, Madagascar, monograph on ethnology of, 789
- Tanganyika Territory, administration in, 804; age-grades in, 735; bibliog. of, 838; bibliogs. on, 847; child training among Wanguru tribe in, 757; and cultural influences from Indonesia, 753; ethnographical notes on, Reche, 808; future of, 809; general description of, Rehse, 808; general ethnology of, Vix, 828; Hehe tribe of, ethnological study of, 799; hunting of hippopotamus in, 753; Kimwani fishing culture in, 763; laws of Chagga tribe in, 797; list of tribes of, and map, 779; making pottery, by Wabena in, 753; music of Negroes of, 798; northern highlands, general description of, Werther, 830; northern portion, monograph, excellent pictures, physical types, Weiss, 829; Nyamwezi tribe of, important article on, 819; Oldoway skeleton from, 808; periodical TNR, 731; rock paintings in, 753, 800; Sandawe tribe in, 782; studies of population in, 766; Ubona area in, ethnological study of, 753; Wabende tribe in, marriage customs of, 793; Wahehe (Hehe) tribe of, ethnological notes on, 774; Waschamba tribe in, 760
- Tati Bushmen, general notes on, and study of language of, 757
- Tattooing, 770, 772; significance of, 785; in Tunis, 811; in Tunisia, 781; in western Sudan, 755
- Taungs, human fossil bones from, 734; stone implements from, 780
- Tebu tribe, 740, 811
- Teda tribe, 801; clans of, 809; of Tibesti, circumcision rites of, 787; see Tibbu (Tebu), Zaghawa
- Teliki (Count), explorations of, 775
- Tenda tribe, of French Guinea, 755
- Textbooks, of anthropology, B. N. Azikiwe, anthropology and the African races, Lincoln University, Pa., 1934, mimeographed, Kroeber, 784, Lowie, 790; of anthropology, races of Africa, Seligman, 1930, 816; anthropometry, 776; of archaeology of Africa, stone age in all parts of continent described, 787; of archaeology, stone age throughout the world, Menghin, 1931, 796; of Bantu, Meinhof, 1932, 796; of climates of Africa, 783; of entomology, 778; of general anthropology, 767; of geology, Schuchert and Dunbar, 814; guide to African ethnology, 770; on language families of Africa, 830; for linguistic study, Sapir, 812; Marett, 1912, 794; of Mohammedanism, 794; of physical anthropology, 3 vols., Martin, 841; of races of mankind, 814; Smith, E. W., article 1935, an excellent introduction to textbook study of Africa, 818; of Uganda, 823; see Languages
- Theatre, of Mandingo tribe, 785; shadow plays in, Spies, 819
- Theatricals, marionettes, 786
- Throwing knives, all African forms of, 823; see Knives
- Thunderbolts, 759; celts representing, 736
- Tibbu (Tebu), see Teda, Tibesti, Zaghawa
- Tibesti, circumcision rites in, 787; clans of Teda tribe in, 809; recent

- explorations of, 824, by Umberto, 827; Teda tribe of, 801
- Timbuktu, articles and books on, 758, 770, 772, 788; early account of, about 1820, 778; industries at, 759
- Time reckoning, calendar, 768, 775; see Moon, Sun
- Times Atlas, 29
- Timne tribe, of Sierra Leone, short article on, 823; Thomas, N. W., 4 vols. on, 824
- Tiv (Munshi) tribe, of Nigeria, 758
- Tobacco, uses of, in Africa, 787
- Togoland, bibliog. of, 839, 860; ethnography of *Fo-Negroes* in, 833; Ewe tribe in, important work on, Westermann, 1935b, 831; folklore stories from, 748; under German administration, 783; periodical TC, 731; religion in, 799; religion of Ewe tribe in, 819; totemism in, P. F. Wolf, 833
- Toma tribe, in Liberia, 800
- Tones, in Efik speech, 829; in language, 777; in language of Ewe tribe, 814; significance of, in Bantu speech, 800; in speech, of Yoruba tribe, 778
- Tonga tribe, kinship system of, 816; see Bathonga
- Totemism, 764; in Baganda tribe, 793; and blood groups of W. Africa, 807; distribution and types of, 734; on Gold Coast, 771; a new conception of, 790; in Nigeria, 752; origin of, suggested, 741; problem of, articles on, 766, 814; religion and, 823; in Togoland, P. F. Wolf, 833; a world survey, 767
- Trade, primitive, psychology of, 776; on shores of Lake Mweru, 798; silent form of, 742, 768; weights and measures, 785; see Counting, Economics, Transportation
- Transjordan Arabs, physical anthropology of, 817
- Transportation, some African problems on, 779; developments of, in central Africa, 829; modern developments of, in Sahara, 756; oxen as pack animals, 789; see Camels, Canoes, Donkeys, Economics, Horses, Trade
- Transvaal, 852; archaeological excavations in, and recent report on, 790; bibliog. of, 838; circumcision in Ba-Khaka tribe of, 781; copper-rod currency from, 769; (northern), divination practiced in, 809; human fossilized mandible from Kopje Enkel in, 813; (eastern), mental and moral capabilities of natives in, 833; phallus cult among Bapedi in, 833; skeletal remains from, 765; see S. Africa
- Traps, for animals, distribution of types of, 782; harpoon downfall and its distribution, 785; spiked wheel-trap, distribution of, 789; see Fishing, Hunting
- Travel, in Angola, 736; book on, by Akeley, 733; Churchill's collection of voyages, 750; compendium of, 781; in E. Africa, 740; and exploration in Sahara, 786; in interior of S. Africa, 801; Junker, 781; map of, for all Africa, 810; in W. Africa, about 1845, 759; of west and central Africa, 792
- Tridents, 770, 789; Lindblom, 789
- Tripoli, to Bornu, Vischer, 828
- Tripolitania, archaeology in, Frobenius, 765; description of population of, 733; general account of, 797; racial types and pictures of, 799; regeneration of, 798
- Tristan Da Cunha, bibliog. for, 849
- Trocadéro Museum, stone implements from Africa in collections of, 782
- Tsetse-fly, influence of, on human life, 756
- Tshi speaking people, 760
- Tuareg, 759; art of, 767; and De Foucauld, 763; general description of, 738; general work concerning, 735; historical, Palmer, 803; important article on, 835; and life of De Foucauld, 738, 781; ornaments of, 734, 803; poetry of, 769; Rodd, 810; Tamachek language of, 771; see Camels, Sahara
- Tumbakultur, and stone age in Belgian Congo, 796
- Tumba tribe, drum language of, 750
- Tunis, bibliogs. for, 857; tattooing in, 811
- Tunisia, Bedouin Arabs of, 776; evidence of Roman occupation in, 741; Mazigh people of, book on, 822; shadow plays in, 819; tattooing in, 781
- Turkana tribe, brief notes on, 737, 831; ethnology of, 761; source for pictures of, 736; two articles on, 808
- Twins, beliefs and ceremonies connected with, in S. Africa, 757; customs relating to, in Nuer tribe, 761; customs relating to, in S. Africa, 812; in upper Guinea, 770
- Ubena tribe, of Tanganyika, general ethnology and marriage customs of, 753
- Uganda, archaeology of, Wayland, 829; Baganda traditions in, 771; Baganda

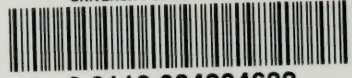
- tribe of, described, 772; bark cloth made in, 734; bibliog. of, 839; bibliogs. of, 847-848; blood brotherhood, in Ankole, 832; cultural and political changes in, 780; and Egyptian Sudan, 2 vols., 832; eighteen years in, 826; ethnography of Basoga-Batamba tribes in, 751; ethnological and general, eastern portion of, 774; ethnology and general information of, good photographs, 779; game of *mancala* in, 743; general description of, 783; general ethnology of, and photographs, 753; handbook of, an excellent compendium, 823; Kavirondo tribe of, 734; kings of, 735; Lango tribe in, 758; Logbara tribe of, divination and religion of, 807; northern tribes in, notes on, Stigler, 821; periodicals JEAU, 730, UJ, 732; religious conceptions of certain tribes of, 819; stone age cultures of, 801; study of Baganda customs in, 781; see Baganda, east Africa
- Upper Volta, bibliogs. for, 860
- Vachokwe (Bajok) tribe, circumcision rites of, 775; initiation rites of, 737, 771; see Angola
- Vai tribe, marriage customs in, 810; writing of, 738, 794, 797
- Vakwanyama tribe, cultural changes among, 761; see Hambly, 1934a
- Valenge tribe, women of, 759
- Vandau tribe, exorcism among, 781; marriage customs and property concepts of, 773
- Variolation, 751
- Verzeichniss der anthropologischen Litteratur, a bibliographical source, 840
- Victoria Nyanza Lake, fishing methods of, in Kavirondo Gulf, 757; general description of, 784; Kimwani fishing culture near, 763
- Villages, built on lake, W. Africa, Hall, C. R., 770; of Kabyles, 795; life in, economic and social studies of, Forde, 1937b, 763; organization of, among Sukuma tribe, 832; structure of, in French Equatorial Africa, 755; studies of, Eathly, 759
- Volkskundliche bibliographie, bibliographical source, 840
- Volta (upper), bibliog. for, 860
- Wabarwe tribe, ancestor worship in, 817; initiation of medicine-men in, 817
- Wabena tribe, in Tanganyika Territory, pottery of, 753
- Wabende tribe, marriage customs of, 793
- Waduruma tribe, 768; see Nyika tribe
- Wagogo tribe, see Gogo
- Wahehe tribe, ethnological notes on, 774; monograph on, 801; see Hehe
- Wambuti Pygmies, material culture of, 792; see Bambuti, Ituri, Pygmies
- Wandamba tribe, hunting customs of, 774; method of hunting hippopotamus among, 753
- Wangonde tribe, of Nyasaland, kinship system of, 812
- Wanguru tribe, education of children in, 757; position of women in, 795
- Warega tribe, cultural changes among, 750; ethnological study of, 756
- Warfare, chain mail used in, 786; Chaka, 798; and military organization in Swaziland, 738; Nandi organization for, 777; see Masai, Military organization, Zulu
- Warumbi, article on, 792
- Waschamba tribe, study of, by Eichhorn, 760
- Washington, D. C., and bibliographical sources, 840
- Watindega, click language of, 740
- Wawanga, and adjacent tribes, 759
- Wayao tribe, long article on, 820; see Yao
- Weapons, ancient forms of, and their significance, 811
- Weaving, of Babunda tribe, 780; in Belgian Congo near Lake Leopold, 792; standard work and article on, Roth, 811
- Wedding customs, of northern Sudan, 752
- Weights, of bronze in Ashanti, 824; and measures used in trade, 785; and weighing gold in Ashanti, 834; see Brass, Bronze
- Wellcome Research Laboratories, 830
- West Africa, administration of French and British in, compared, 735; archaeology of, 785; art and sculpture of, Sadler, 811; (British), bibliog. for, 852; bibliog. for French W. Africa, period 1920-1927, Labouret, 1928, 785; bibliogs. for, 858-860; drum language of, 807; explorations of, by Kingsley, 782; explorations of, by Park, 803; handbook of practical information on, 800; Hebrewisms of, 832; Negro sculpture from, 750; periodicals GCR, 729, NF, 731, NPN, 731, SLS, 731, WAR, 732; secret societies of, 794; study of foods in, used by Negroes, 762

- Whistling language, 785
- Wilton, stone implement industry, 765
- Witchcraft, in Anjanja tribe, 774; articles of importance on, 755, 762; among the Gã people, Field, M. J., 1937, 762; of Northern Rhodesia, 796; in relation to magic in east Africa, 774; see Magic, Medicine-men, Sorcery
- Women, position of, in Wanguru tribe, 795; social position of, 824; social study of, in Australia, Roheim, 810; status of, among Nilotic Negroes, 758; see Family, Kinship, Mother-right
- Wood-carving, from Congo, notes on, 770; of Ivory Coast, 774; in Lower Congo, 792; see Figurines
- Worship, of sky and earth, 764
- Wristlets, of iron, 796; see Bangles
- Writing, of Bamum tribe in Cameroons, 752; beginnings of, 775; of Eyap tribe in Cameroons, 793; history of, 794; of Mende tribe, 822; Nsibidi signs in, 755, 791; of Vai script, 783, 794, 797
- Wute tribe, general monograph on, 817
- X-rays, of Egyptian mummies in Field Museum, 798
- Yao tribe, animism among, 773; culture and education of, 772; initiation into, 820
- Year books, of Milwaukee Museum, 736; see Handbooks
- Yolof (Wolof), secret language of, 787
- Yoruba tribe, historical study of, 779; laws of, 733; method of counting among, 756; speech of, 760; string figures of, 803; tones in speech among, 778
- Zaghawa tribe, 792
- Zaire River, explored, 826; see Congo
- Zambezi Valley, stone implements from, 735, 736, 786
- Zande, see Azande
- Zanzibar, bibliogs. of, 848; history and people of, 778; string figures from, 776; Swahili tales from, 820; see Pemba
- Zenata tribe, anthropometry of, 787
- Zimbabwe, 770; bibliog. for, Caton-Thompson, 851; excavations at, 748; Mauch, 795; temple of, brief description, 821
- Zoology, animals of all countries, 777; see Animals, Natural history
- Zululand, bibliogs. for, 851; physical anthropology and physiology of natives of, 822; see Natal
- Zulus, beliefs of, concerning animals, 740; beliefs of, in God, 748; book by Kropf, 784, by Leslie, 788; circumcision rites of, 815; drums of, 783; God, notion of, several important articles, 828; intelligence test of, 762; marriage customs of, 742; military system of, 762; Mofolo, 798; of Natal, 795; old account of, about 1879, 762; religious beliefs of, Schweiger, 815; skin dressing by, methods of, 827; social system of, important work, 784; textbook of language, 757; two substantial works, Soga, 818; see Kafirs, Pondo, S. Af. Bantu

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